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EDITOR:
T. D. HOGAN, VK3HX,
Telephone: UM 1732

MANAGING EDITOR:
J. G. MARSLAND, VK3NY

TECHNICAL EDITOR:
J. C. DUNCAN, VK3VZ

COMPILATION:
R. W. HIGGINBOTHAM, VK3RN

DISTRIBUTION:
H. N. STEVENS, VK3JO

ADVERTISING REPRESENTATIVE:
W. J. LEWIS,
20 Queen Street, Melbourne, C.1
Telephone: MU 5154

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— IN THIS ISSUE —

AMATEUR RADIO

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EDITORIAL

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BAND OCCUPANCY

Probably the most important question confronting the Radio Amateur to-day is the international allocation of frequencies, and in particular, how he will fare in the matter of allocation of Amateur Bands.

The Wireless Institute of Australia has been fortunate in having enjoyed close and sympathetic co-operation with the Postmaster - General's Department whose Radio Inspectors have done their utmost to facilitate the use by Amateur Stations of as much of the Spectrum as possible under the existing international plan.

Under the new allocations determined at Atlantic City, Amateurs will receive several new bands which will serve in some measure to offset the loss of other portions of the spectrum which we have had to accept with considerable reluctance.

The vital thing for Amateurs to remember is that these new bands must be used adequately and as quickly as possible unless we are prepared to suffer criticism for their disuse.

The Federal Executive is now discussing with the Department the question of Amateur Bands in our zone, and it is essential that we shall be able to give an assurance that when the complete allocations are promulgated immediate use will be made of them.

One of the most difficult problems confronting the Federal Executive is to explain why the twenty metre band is so sadly misused for short haul contracts which could be carried out on V.H.F. bands and also why such lengthy conversations on trivial matters continue to cause congestion on a band which we are always claiming is too narrow now to accommodate all our stations.

In view of the increase in Amateur Stations throughout the world, we need to employ our bands to the best advantage or we can be sure that the ever-watchful commercial interests will endeavour to whittle down our hard won bands until there is nothing left except on extremely high frequencies.

The same argument can be used for the use of frequency modulation and pulse transmissions, the retention of which we may one day be asked to justify.

The Federal Executive intends to organise suitable contests to popularise the newer bands, but the influx to these new regions lies with each and every Amateur who is a true experimenter and really wants to enjoy Amateur Radio to the full.

W.R.G.

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A BAND SWITCHING CONVERTER FOR THE V.H.Fs.

BY J. C. DUNCAN*, VK3VZ

In common with many other Amateurs who are now contemplating ways and means of venturing into the High Frequency spectrum, the writer felt the need of increasing the operating range of the normal station receiver, so that reception would be available up to the 166 Mc. band. In addition the performance of all receivers used on the lower frequencies, shows a marked falling off in performance above 22 Mc. so that any converter, which is the logical way of making this expansion, should start at the 28 Mc. band, followed by the 50-54 Mc. and then the 166-170 Mc. band.

Another important point to be considered is the fact that quite a few Amateurs are in possession of receivers from Disposals, which only go as high as 22 Mc., which also indicates 22 Mc. as the starting point.

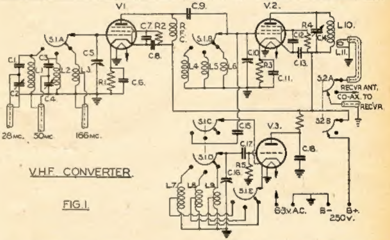
In the writer's case the station receiver is an AMR200, which is the Australian version of the Super Pro, and it was decided that the converter be mounted in the compartment in the power supply chassis, which normally houses the power lead and cables. This compartment is quite small, being 7" high, 3¼" wide, and 12" deep, hence the unusual shape of the Converter, for due to the lack of available space, it was necessary to utilize every square inch available. Another problem which had to be solved here was the one of band changing, and it was obvious that the only way would be band switching. Frankly the writer was very dubious of switching coils at 166 Mc., but was amazed to find that results on this band compared more than favourably with an A.S.V. receiver, and showed a marked superiority in signal to noise ratio.

Before commencing with the design and construction of the Converter, it was decided to use an old converter which the writer had on hand, to conduct some experiments to determine whether it would be possible to use some form of dial-less converter, or broad band r.f. stages, and thereby simplify the design. Results in this direction were disappointing, and the conclusion was reached that these methods are satisfactory if one is willing to accept reduced performance. The first test was made along the dial-less converter lines, the converter oscillator was fixed at 20 Mc. and the receiver tuned between the limits of 7 Mc. and 10 Mc., giving a range of 27 to 30 Mc. It was found necessary to have a co-axial line connecting the receiver to the converter, and both receiver and converter completely shielded, to prevent pick-up of strong signals in the region of 7-10 Mc.

However with all these precautions a few strong signals did appear at about strength 4. Another very strong carrier, picked up at 29.2 Mc. approximately, proved to be a harmonic of the receiver oscillator, which would have a very great nuisance value. The system also showed very uneven sensitivity due to the output transformer of the Converter being untuned, whilst the first i.f. (the receiver) was varied. Attempts were made to broaden the resonance of this circuit by loading with a resistance, but this resulted in a marked decrease in the sensitivity of the Converter, although the circuit was broadened to the required amount. This same marked drop in sensitivity was also evident when resistors were used to load the r.f. and mixer signal circuits, therefore it was obvious that the reduction in "Q," was bringing about a reduction in signal to noise ratio, because the tube noise was unaltered.

It was decided therefore that the best arrangement would be to use the conventional method of approach to the problem, and use the receiver as a fixed i.f. frequency, and tune the converter.

The remaining points to be decided were the choice of the first i.f. frequency, and the overcoming of the receiver oscillator harmonics falling within the bands to be covered. Actually these two problems are tied together to some extent, as by changing the receiver i.f., we also change the receiver oscillator frequency, and with it the position of its harmonics throughout the high frequency spectrum. This problem was solved by considering what frequencies the receiver oscillator could be operated on, which would enable the harmonics to clear the bands covered by the Converter. As a first i.f. frequency of about 10 Mc. had been decided upon as being the best frequency for the Converter, a



V.H.F. CONVERTER.

FIG. I.

C1, C3, C15—5 pF. Ceramicon.
C2, C4—5-30 pF. variable.
C5, C10—15 pF. variable with 2 rotor and 3 stator plates.
C6, C11—0.001 uF.
C7, C8, C12, C18—100 pF. mica.
C9—50 pF. (N.P.O.) Ceramicon.
C13—0.01 uF.
C14—3-30 pF. mica trimmer.
C16—15 pF. variable with 1 rotor and 2 stator plates.
C17—50 pF. (N750)
R1, R3—250 ohms wire wound resistor.
R2, R4, R5—50,000 ohms.
R6—30,000 ohms.
S1a-e—3 bank 3 pole 3 position Ceramic wafer switch.
S2a, b—d.p.d.t. switch.
RFC—2.5 mH. r.f. choke.
V1 V2—6AG5 peanut valves.
V3—9002 peanut valve.
L1—28 Mc. aerial, 10 turns ½" diam. ⅝" long, 18 s.w.g. enamel.
L2—50 Mc. aerial, 6 turns ½" diam. ½" long, 18 s.w.g. enamel.
L3—166 Mc. aerial, 14 s.w.g. tinned copper, 1¼" long overall with small "U" in centre ⅜" high and ¼" wide, tapped at top of "U".
L4—28 Mc. mixer, 10 turns ½" diam. ¾" long, 18 s.w.g. enamel.
L5—50 Mc. mixer, 6 turns ½" diam. ⅞" long, 18 s.w.g. enamel.
L6—166 Mc. mixer, 14 s.w.g. tinned copper.
L7—28 Mc. osc., 10 turns ½" diam. ⅝" long, 18 s.w.g. enamel, tapped at 3 turns from ground.
L8—50 Mc. osc., 6 turns ½" diam. ½" long, 18 s.w.g. enamel, tapped at 2 turns from ground.
L9—166 Mc. osc., 9 turns ¼" diam., closewound, 18 s.w.g. enamel, tapped at 3 turns from ground.
L10—9.545 Mc. i.f., 38 turns ½" diam., closewound, 29 s.w.g. enamel.
L11—I.F. link, 3 turns 29 s.w.g. enamel.

*Technical Editor; 23 Parkside Avenue, Balwyn, Victoria.

few calculations showed that the following frequencies would be suitable for our receiver oscillator:—

- **Receiver oscillator 9 Mc.**—3rd harmonic 27 Mc., 6th harmonic 54 Mc., 19th harmonic 171 Mc., and all other harmonics would clear the bands.
- **Receiver oscillator 10 Mc.**—3rd harmonic 30 Mc., 5th harmonic 50 Mc., 17th harmonic 170 Mc.
- **Receiver oscillator 11 Mc.**—3rd harmonic 33 Mc., 5th harmonic 55 Mc., 15th harmonic 165 Mc.

From the above figures it can be seen that if the receiver is set so that the oscillator is on any of the above frequencies, oscillator harmonics will be either on the band edge or clear of the band. The decision was made to operate the receiver oscillator on 10 Mc., so that the harmonics could be used to mark the band edges, and therefore convert the harmonics from a nuisance into an asset.

If it is required to measure the band edges with a great degree of accuracy, any receiver capable of tuning in WWV on 10 Mc. is used, and the receiver connected to the Converter varied until the receiver oscillator is heard to zero beat with WWV. This will mean the receiver is set up for a first i.f. frequency of 9.545 Mc. if the receiver has an i.f. of 455 Kc. and the oscillator is operated on the high frequency side of the signal frequency. As very strong signals are received on frequencies as high as 170 Mc., excellent band edge markers are available.

This attack on the receiver oscillator harmonic problem, is the simplest that the writer could find which would be 100% effective, as no amount of shielding or isolation reduced these signals to a negligible amount. The only method not tried was a low-pass filter, with a cut off point at 10 Mc. located in the co-axial line between the receiver and converter, because it was obvious from the tests that this line was carrying the harmonics to the converter. This method was discarded because it had been decided to install a switch in the Converter to connect the co-axial line from the receiver, either into the Converter output, or the normal receiving antenna, and any filter in this line would be in series with the receiving antenna when the Converter was not in use.

CIRCUIT After these preliminary experiments the circuit was drawn and the Converter built, and it was found that there were still a few problems to be overcome, so we will discuss these items whilst describing the circuit.

As can be seen from the circuit diagram in Fig. 1, three separate co-axial inputs are provided for each band, because at these frequencies, beams, ground plane, or vertical antennae would be used, each with its own individual co-axial line, thereby avoiding the necessity of switching the input circuts in the Converter. On 28 and 50 Mc. bands the co-axial lines are matched by a capacity network across the grid coil, and by varying the 3-30 pF. trimmers and the inductances, it is possible to find values of each which will give the best signal strength for the antenna used.

This will indicate a correct match between the co-axial impedance and the impedance of the grid circuit. These circuits once set require no further adjustment. A similar system was tried at 166 Mc. but it was found necessary to load the grid circuit by tapping the co-axial line up the grid coil, to prevent the r.f. stage oscillating at this frequency. It was also found necessary to have cathode by-passes of 0.001 uF. in both r.f. and mixer circuits to prevent oscillation at 28 Mc. The screen and plate by-passes are connected to the other end of the cathode to that occupied by the cathode resistor and by-pass, for in all v.h.f. tubes, the cathode is brought out to two separate socket pins. The plate of the r.f. stage is capacity coupled to the mixer grid circuit, as experiments showed this coupling to be just as effective as the separate primary winding at these frequencies, and it also simplified our switching. The output circuit of the mixer is tuned to 9.545 Mc., as mentioned previously, and is tuned by a 3-30 pF. condenser. The output link is brought through a co-axial line to a double pole, double throw switch, which connects the co-axial line from the receiver, either to the output of the Converter, or to the normal receiving antenna, which connects to a terminal on the Converter. The second pole of the switch, cuts the h.t. to the Converter when it is not in use.

The oscillator is a grounded plate Hartley, and injection into the mixer grid circuit is obtained by taking output from the cathode tap, and feeding it through a small capacity to the mixer grid. The value of this capacity is altered by switch section S1c, as a value suitable for 28 Mc. is far too great for 166 and 50 Mc. Experiments showed that the capacity existing in the switch contacts gave the correct amount of injection, together with the pick-up from the lead running from the oscillator cathode tap into the mixer shield compartment, for 50 and 166 Mc. operation. On 28 Mc. this degree of coupling was not nearly great enough, so the small Ceramicon is switched in to overcome this.

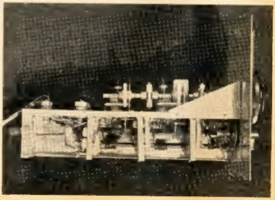
It is opportune at this time to mention several difficulties which had to be overcome before correct operation of the Converter could be obtained. The first problem occurred on the 28 Mc. band, where the oscillator was operated on the low frequency side of the signal circuits, i.e. from 17.455 to 20.455 Mc. A bad case of double spotting occurred, the image occurring about 1 Mc. from the signal. Lack of image rejectivity of the receiver used with the Converter was suspected, but this did not prove to be the reason.

The true reason proved to be due to the following fact—with the converter oscillator on the low frequency side of the signal circuits, images would be received from stations twice the first i.f. frequency away, that is, from 7.910 to 10.910 Mc., which it will be noted, covers the converter output frequency, or first i.f. of 9.545 Mc. This meant that the Converter was receiving the signal in the normal manner, converting it to 9.545 Mc., and then the oscillator was again beating with this signal and re-converting it to the first i.f. frequency when the Converter was tuned away slightly from the signal frequency. Because this first i.f. signal existed in the mixer circuit, it can be seen that there would be no attenuation by the signal circuits (i.e. the r.f. and mixer grid circuits) which would make the image extremely strong. The remedy of course was simply to operate the oscillator on the high frequency side of the signal frequency for 28 Mc. operation.

On the 50-54 Mc. band the oscillator is operated on the low frequency side of the signal, and no trouble was encountered here.

The 166 Mc. band was tackled next, and it was found that the oscillator dropped out of oscillation at about 145 Mc. and could not be coaxed back. From about 120 Mc. the output of the oscillator had shown a decided dropping off in output, so it was decided to use the second harmonic of the oscillator, and run it in the region of 80 Mc. The output on the second harmonic was found to be greater than the fundamental when operated in this manner; that is comparing the output on the second harmonic of 80 Mc. against the fundamental on 145 Mc., which was as high as the oscillator would operate. In addition the oscillator was much more stable, and the all round performance of the Converter was now such, that the three bands tuned just as easily as the normal receiver on lower frequencies.

LAYOUT Up to now no comments have been made on the physical layout of the Converter, although it is quite obvious that the success or failure of a unit of this kind is entirely dependant on it, particularly with band-switching. In case some of the components are not available to enable duplication of the original, it



would be as well to describe the method of setting out, so that the length of all leads will be at a minimum, in the circuits which require them to be that way, and it must be borne in mind that preference must be given to the highest band covered.

The three condensers were fitted with their flexible couplings, and laid out on the table, measurements were then made of the distance between the three bearings, thereby giving the distance between the front panel, and the following two mounting brackets for the condensers. The switch banks were then laid under the condensers, so that the switch connections are directly under their respective stator connections of the condensers, then allowing for the ½" mounting pillars for the switch banks, the distance between the shield divisions can be obtained. The actual width of the Converter is largely a matter of individual choice, as some may prefer to make the unit self contained, with built in power supply; however the distance from front panel to the dividing partitions must be exactly right if all leads are to be kept to a minimum.

In the illustration it will be noted that there are four main shielded compartments. The rear compartment contains the power input, co-axial inputs for the three bands, co-axial outlet to receiver, which is the rear outlet of the four, antenna terminal for receiver projecting from rear of Converter, air trimmers for 28 and 50 Mc. bands, and finally the d.p.d.t. rotary switch for changing the Receiver from Converter to receiving antenna.

The next compartment houses the r.f. stage, following which is the mixer compartment, with the output coil in the small shield above the chassis.

The front compartment, nearest the front panel, is the oscillator section of the Converter.

In Fig. 2 the drawing shows the essential components in the mixer compartment. The drawing has been made with the Converter in an inverted position, viewed from front to rear, and shows both a plan and elevation. In the plan view, the pigtail of the condenser rotor projects through a hole cut in the chassis, and a heavy 14 gauge wire is soldered to the pigtail at this point and brought up in a curve to provide a point for the cold ends of the coils.

Another hole is drilled in the chassis, directly under the stator tie point, and the lead from there is brought directly on to the wiping contact of the switch bank. The wire running from the No. 1 contact of the bank to the condenser pigtail, is the 166 Mc. inductance, for even with the reduction of lead length to a minimum, there is still sufficient inductance in the wiring and switch contacts to need only a straight wire to complete the coil. This fact does not appear to be detrimental to the operation of the circuit, as quite a reasonable peak in signal is obtained when the aerial and mixer circuits are tuned.

The grid pin on the mixer socket is located so that this lead is kept to a minimum. If a straight wire is not found to have sufficient inductance, it is advisable to use a hairpin coil here. The 50 and 28 Mc. coils are located where shown, with preference on shortness of leads given to the 50 Mc. band.

These coils are adjusted by holding a soldering iron at the point X, where they connect to the main 14 gauge supporting wire, and drawing the coils in and out, spring fashion, to obtain the correct inductance. Final tuning can then be done by slightly separating the turns of the coils with a screwdriver. These methods of coil adjustment, have proved most effective, and it is surprising the large range of frequency over which the Converter can be varied.

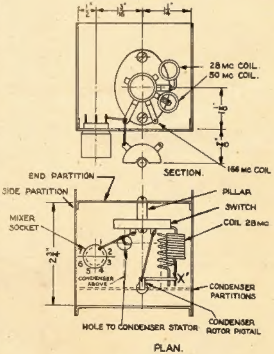


FIG. 2.

The two side shields of the Converter are removed for wiring and adjustment of the coils in an approximate manner. With the shields in place fine adjustment of the coils is made with the spreading and contracting of the turns by means of the screwdriver.

The steel rod which turns the switch banks was cut off near the clicker plate, and a piece of bakelite rod filed to replace it. This was done to remove as much metal as possible from the fields of the coils. The aerial change-over switch was also controlled by a bakelite rod, for the same reason.

The three variable condensers used were stripped down to give a large degree of band-spreading, and in the finished Converter the following ranges were obtained:—26.9 to 30.4 Mc., 49.9 to 55.2 Mc., 160 to 172 Mc. The oscillator condenser was reduced to one rotor and two stator, and the r.f. and mixer condensers to two rotor and three stator plates. With this arrangement of capacities it was found that the tracking was quite satisfactory on all bands.

ALIGNMENT One of the main problems associated with any piece of equipment such as this, is the problem of finding the band on these frequencies, particularly on 166 Mc. The 50 Mc. band is not so difficult and the 28 Mc. band quite easy with the activity now to be found there. Therefore it is advisable to get the Converter working on 28 Mc. first, following with 50 Mc. and then 166 Mc. The Receiver should be set to 9.545 Mc. as previously described, and the Converter output circuit peaked to give the greatest noise.

An Alignment Oscillator is then set to 28 Mc. and the 28 Mc. band set to the correct setting on the dial. If it is desired to cover the 27 Mc. section of the band, the Oscillator should be set to 27 Mc. and the oscillator coil in the Converter adjusted to bring the signal in at nearly full scale, then with an antenna attached the signal circuits are set for maximum noise, by peaking at the middle of the band. The 50 Mc. band is adjusted in a similar fashion, except that the Alignment Oscillator is adjusted to 25 Mc. and the second harmonic used to locate the band. With the Receiver oscillator set on exactly 10 Mc. as previously described the 50 Mc. point will be indicated by a strong signal being received from the 5th harmonic from the Receiver.

After these two bands have been set up, it is necessary to locate the 166 Mc. band. If a calibrated Wavemeter is available, it is only necessary to tune in one of the Receiver oscillator harmonics and then vary the Wavemeter until the oscillator pulls out of oscillation. The oscillator coil should then be altered until it pulls out at 85 Mc., which should then place the Converter on 170 Mc., as the second harmonic is used. A signal is then tuned in and with the three condenser couplings disconnected, each condenser varied to give maximum gain. It should be noted that it is necessary to connect an antenna during these adjustments, to avoid oscillation in the r.f. stage. Even a short piece of wire is all that is necessary. The frequency is finally checked by link coupling the Wavemeter in series with the

(Continued on page 7)

A Flextal Conversion Exciter Unit

(Courtesy Radio Publications Incorporated)

BY A. K. McLENNAN*, VK3AKM

This unit, of the variable frequency type, first made its appearance in "The Jones Radio Handbook," fifth edition.

The principle of operation is to beat a variable frequency against a fixed frequency and have the resultant "beat" frequency in a useful spectrum. Thus by having a fixed frequency of 4,300 Kc. and beating against it another, variable from 800 Kc. to 550 Kc., the resultant "beat" will be variable between 3.5 Mc. and 3.75 Mc. This will cover half the 3.5 Mc. band, more than twice the 7 Mc. and 14 Mc. bands, and all of the 28 Mc. band. This provides a very useful coverage.

In the unit to be described, the fixed frequency is obtained from a Pierce Crystal Oscillator, using a 6C5 triode, while the variable is from a Hartley type of self-excited oscillator, using a 6F6 as a triode. The beat frequency is obtained from the plate circuit of an 802, this tube being used as a mixer.

In the opinion of the writer, points in favour of this unit are:—

1—Stability of a self-excited oscillator is much easier to obtain on the comparatively low frequencies of the broadcast band than on the Ham bands.

2—When using the usual type of v.f.o. on a low frequency, each time the fundamental is moved 1 Kc., the operating frequency is moved by the amount of multiplication. With this unit the output is in the 3.5 Mc. band and moving the low frequency oscillator 1 Kc. only moves the "beat" frequency 1 Kc. This allows for very easy operation when one wishes to QSY.

The constructional details are not in any way complex, all that is necessary is to make sure it is a solid job, putting each tube and its components in a separate compartment, drill "breather" holes in the top of the cabinet over each tube, with a shield around the 6F6 to the same height as the cabinet, and mount the voltage divider externally, so that there is a minimum of heating of the components. No voltage stabilizer was used in the writer's unit as it was not found necessary. A variation of voltage caused both oscillators to move in the same direction, in this case higher, with the result that the beat did not shift to any audible note.

This test was made using the fourth harmonic of the local b.c. station which is 3.520 Mc. and after allowing the heaters to "warm up" for ten minutes no frequency drift was noticed over a period of forty-five minutes.

A full point to point description of the construction will not be attempted here, as any person intending to build it will have sufficient knowledge to do so from the circuit.

Although not shown in the circuit it is a good plan to place a milliammeter in the plate circuit of the 802.

It will also be noted that there is no h.t. on the screen of the 802. This is quite in order as the screen is used purely as an injector grid.

If the suppressor were used there would be no shield between the injector grid and the plate and this would allow too much of the low frequency to appear in the plate circuit.

The writer has used one of these units for some months now and has found it to be very satisfactory. However there is one point, **watch carefully the frequency of the Crystal used, making sure** that it will not cause any harmonic of the Hartley to fall in the 3.5 Mc. band in close relation to the beat frequency.

Take the case of a Crystal on 4.68 Mc. When tuned for a beat frequency of 3.51 Mc. the Hartley is on 1,170 Kc. and its third harmonic is also on 3.51 Mc. This is alright if the beat is "dead on" 3.51, but between 3.5 and 3.51 a second signal appears and can cause a deal of trouble.

Crystals having fundamental frequencies between 4.3 Mc. and 4.5 Mc. are free from this trouble.

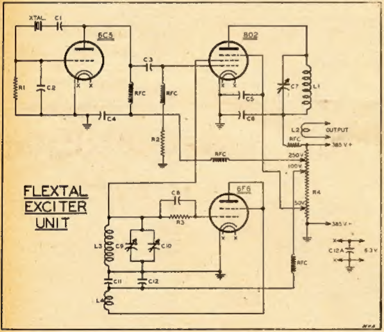
The tuning procedure is as follows:—

(i) Remove the 6F6, and using a Crystal in the 3.5 Mc. band tune the plate of the 802 to resonance. This ensures that the Pierce Oscillator is working and also gives an idea of where the "dip" should be when using the conversion Crystal.

(ii) Replace the 6F6 and remove the 6C5 and with the aid of a b.c. receiver set the padder of the Hartley until the frequency is 3.5 Mc. removed from the conversion Crystal, i.e. with a 4.3 Mc. Crystal set the Hartley on 800 Kc. Do this with the band-spread condenser at minimum capacity, because, as we are using the difference of the two frequencies the unit tunes "backwards," i.e. an increase in capacity results in an increase in the beat frequency.

(iii) Replace the 6C5 and using the conversion Crystal check the band-spread with the aid of a frequency meter, at all times keeping the 802 plate at resonance.

The unit is then ready for work and has plenty of output; in fact, the writer



C1—0.01 uF.
C2, C3—100 pF.
C4, C5, C6—0.001 uF.
C7—50 pF. variable.
C8—500 pF.
C9—385 pF. (broadcast).
C10—100 pF. variable.
C11—0.1 uF.
C12—8 uF.
C12a—0.006 uF.

R1, R2—50,000 ohms.
R3—5,000 ohms.
R4—35,000 ohms.
RFC—2.5 mH.
L1—48 turns 22 gauge close wound, 1" diam.
L2—8 turns 22 gauge over cold end L1.
L3—Broadcast coil third of turns removed.
L4—30 turns 28 gauge, sliding over L3.

*Assist. Engineer Station 3UL; Landsborough Road, Warragul, Victoria.

had difficulty in reducing drive sufficiently when driving an 807 on 3.5 Mc.

If there is any doubt about not using voltage regulation on the Hartley, a VR105/30 may be used.

It is the intention of the writer to make this unit a real "Flextal" by incorporating a switch to bring several spot Crystals in, thus having an exciter unit which will be quite versatile.

Before finishing may I be allowed to write a word of advice:—

There has been, lately, some talk about v.f.o.-itis, i.e. running up and down the band and thereby causing quite an amount of unnecessary QRM. Take a tip, and incorporate a switch that will allow the "Flextal" to be brought on independently of the final. This will allow of "netting" without causing QRM.

Band Switching Converter

(Continued from page 5)

antenna lead, and with a signal tuned in, a point will be found on the Wavemeter dial where the incoming signal dips suddenly. If Converter is operating on its correct frequency this should be on the 166 Mc. band. The lead lengths are then adjusted to give alignment.

Another method of finding the 166 Mc. band is by the oscillator harmonic method. This requires an Alignment Oscillator covering the range 15-30 Mc., and the principle of operation is as follows:—The Converter is tuned to a 10 Mc. point, which is one of the Receiver harmonics, and the Alignment Oscillator frequency is varied until a beat is heard with the signal tuned in on the Converter, this frequency is noted. It will be found that in the range 15 to 30 Mc. quite a few points will be found. By referring to the table below, the frequency to which the Converter is tuned will be found above the vertical column of frequencies which agree with the points noted on the Alignment Oscillator. It is important that this check be made only after the signal circuits have been aligned, otherwise images will be loud enough to be confused with the signal.

The table only shows frequencies over a limited range, but can be extended by simply dividing the frequencies in the top line by the harmonic required, such as 5, 6, 7, etc. Also the table is not calculated to a high degree of accuracy as this is not necessary to locate the band.

In operation the Converter has proved to be an excellent performer, and it has retained its calibration on all bands, whilst the convenience of switching bands has to be experienced to be appreciated.

TECHNICAL EDITOR'S NOTE

It is regretted that owing to the indisposition of one of our draughtsmen, an article on the SCR522 Conversion, scheduled for this issue, was not ready in time for publication.

This article, which will appear in the April issue, should appeal to all Amateurs who are interested in conversion of service equipment.

From correspondence received, it is obvious that articles of this nature are extremely popular, and it is hoped to publish a series covering equipment now available on the Australian market.

Any suggestions, data, or conversion material our readers may be able to supply, will help to keep this section of the main technical presentation complete. It is up to you to keep the ball rolling.

70	80	90	100	110	120	130	140	150	160	170
23.3	26.7	30	25	27.3	30	26	28	30	26.67	28.4
17.5	20	22.5	20	22	24	21.6	23.38	25	22.9	24.3
14	16	18	16.7	18.4	20	18.6	20	21.4	20	21.22
		15	14.3	15.8	17.15	16.25	17.5	18.7	17.8	18.9
					15	14.45	15.5	16.7	16	17
								15	14.55	15.45

GRID DRIVE

One important question that is sure to come up in the design of a new transmitter is how much power is needed to adequately drive the individual stages. Tube manufacturers have set up driving power figures in typical operating data, but, unless this information is interpreted correctly, the driver stages may be underdesigned. Here is an analysis of grid driving power as listed in tube operating data which is reprinted from R.C.A. "Ham Tips," Vol. VII, No. 3, 1947.

At higher frequencies consideration must be given to r.f. and transit-time loading losses. **If the stage in question is to operate above 30 Mc., it is advisable to provide 3 to 10 times the published low-frequency driving power figure in order to insure sufficient drive plus a reasonable margin for safety.**

After the design has been crystalised and the transmitter constructed, tests and adjustment should be made to insure that the stages are being properly driven. If, as in many cases, an amplifier tube is to be operated with conditions differing somewhat from those published under a set of suggested typical operating conditions, the performance can be checked as follows:—First, load the amplifier to the desired value of plate current. Then vary the grid current slowly (tank circuit tuning remaining unchanged) and note the change in output.

If the change in output is roughly proportional to the change in grid drive, the stage is underdriven. Then drive should be increased until very little increase in output results from a large increase in drive. Under this condition, the stage is said to be saturated. Of course, the maximum rated value of d.c. grid current should not be exceeded.

The penalties for an underdriven stage are low power output, low efficiency, and, if the stage is plate modulated, severe distortion at high levels of modulation. The latter condition will readily be recognised as downward modulation, and, if a pure sine wave is used for test, a decrease in average plate current will be noted as the modulation level is increased.

CORRECT GRID DRIVE IMPORTANT

It is very desirable to saturate amplifiers, especially those driven by a series of frequency multipliers. This comes about because it is rarely possible to saturate frequency multipliers and stay within tube ratings. Consequently, a small decrease in supply voltage on the multiplier stages may cause a large decrease in grid drive and in output of the final amplifier stage. It is important, therefore, that the amplifier grid be saturated so that full output is maintained regardless of variations in supply voltages.

It is possible to overdrive as well as underdrive tubes. However, overdrive occurs rarely. There is little to be gained by over-driving and something to lose. Although there should be no actual damage to the grid or cathode unless the maximum ratings for d.c. grid current or d.c. grid bias are exceeded, **over-driving can cause excess harmonic radiation and low power gain.**

Over-driving a beam tube or pentode may cause the screen grid to be overloaded before the control grid. This condition may be checked by metering the screen current to determine whether the screen input is within ratings. Adjustment of both bias and screen voltage may be necessary to allow the tube to be properly saturated and still remain within screen input ratings.

The correct amount of grid drive is an important detail of power tube application. With other conditions properly maintained, it insures high power gain, high plate efficiency, and long tube life.

The value of driving power shown in tube data bulletins includes only the actual power input to the grid plus the power lost in the bias supply. It does NOT include r.f. losses that occur in the tube, tank circuit, socket and wiring, or losses in the tubes, caused by transit-time loading.

It is not feasible for the tube manufacturers to give total driving power figures because there is no way of anticipating conditions under which the tubes will be used. Grid power requirements will vary considerably even in well-engineered designs, and the extreme ranges are quite large. It is better, therefore, that printed specifications indicate only the sum of grid power and bias losses.

Because the driver tube must supply all the losses between its plate and the grid of the driven tube, these losses must be added to the figure given in the tube data for driving power requirements. **On an average, in the frequency range up to 30 Mc., the losses are large enough to indicate the choice of a driver tube which has a rated output of about twice the grid power rating of the driven tube.**

Driving-power measurements are usually made at 100 Kc.—where r.f. losses in the tube are negligible—by measuring the peak r.f. grid voltage (Eg) and the average grid current (Iav). Then, the relation Wd = 0.9 Eg Iav, gives the driving power in watts. This is the figure shown in tube bulletins.

TO WHOM IT MAY CONCERN

Two manuscripts have been received signed by "Old Hombre" and "Vieille Homme." Would the person concerned be so good enough to furnish me with his correct name and address (which is not for publication), after which I can possibly make use of the contributions. —Editor.

CALCULATING DISTANCE OF QSOs.

By F. S. DAHL*, VK7KA (Portable)

Now that v.h.f. and u.h.f. DX is being achieved, it seems interesting to know somewhere close to the mileage achieved in a contact. This can be done simply by trigonometry, and the following method gives reasonable results without recourse to involved data on the oblate spheroid shape of the earth, to the convergence of meridians and the etceteras of geodosey.

Firstly know your QTH. This can be had by scaling latitude and longitude of your shack from a large scale local map or district survey chart. Since maps are readily available at scales of at least 1" to the mile, a position can easily be fixed within say 15 seconds of arc, which is about ¼ mile. One minute of arc approximating 1 nautical mile—1.1515 statute miles.

Now suppose Ham A in Adelaide works B in Melbourne, the Cosine of the arc on the earth's surface AB in degrees and minutes equals the sum of two terms.

Firstly, Cosine Latitude A × Cosine latitude B × Cosine Difference in longitude, written—

Cos. lat. A × Cos. lat. B × Cos. diff. in longitude.

The second term is:—

Sine lat. A × Sine lat. B.

Perform these two multiplications then if both stations are on the same side of the equator, add the answers together. This figure is the natural cosine of the angle subtended at the earth's centre by the arc on the earth's surface joining the two stations.

Convert this angle into minutes and this gives nautical miles the stations are apart, and finally multiply by 1.1515 to arrive at statute miles.

If the stations are on different sides of the equator, then subtraction of the terms is necessary. The lesser from the greater.

The following is a worked example:—

Latitude Adelaide S 34° 55' 33".
Latitude Melbourne S 37° 49' 53.5".
Difference in Longitude 6° 23' 27.5".

The first term Cos. lat. Adelaide × Cos. lat. Melbourne × Cos. Difference in Longitude =

Cos. 34° 55' 33" × Cos. 37° 49' 53.5" × Cos. 6° 23' 27.5"
= 0.818984 × 0.789819 × 0.993786
= 0.643544 using natural cosines.

The second term, Sine latitude Adelaide × Sine latitude Melbourne = Sine 34° 55' 33" × Sine 37° 49' 53"
= 0.572516 × 0.613340
= 0.351147

Add these two results together—
0.643544 + 0.351147 = 0.994691.

Now in your trig tables look up what angle has a natural cosine of 0.994691, and we find 5° 54' 20" which equals 354.333 minutes. Thus the points taken

(Continued on page 9)

*Lands and Survey Dept., Tasmanian Govt. Service, Box 641D, Hobart.

WRITING AN ARTICLE FOR "AMATEUR RADIO"

It is the purpose of this article to give some "dope" to you, on how to impart your knowledge to your fellow Ham via the medium of 'Amateur Radio."

In order to have a magazine, it is evident that editorial material be obtained. Naive as it seems, that statement carries plenty of meaning, and is not facetious as it may appear.

We like to receive articles with a basically good idea and which usually can be sent to the printer without a mark (correction) on them. But if the idea is good, we will re-write it if necessary and make it suitable for publication.

Out of ten articles received, for instance, there may be three, four or five which are acceptable as they are written (with the exception of some grammatical and technical corrections or clarifications). Occasionally the prize of them all pops up, an article which has been well written, technically and grammatically sound, and—of all things—with a subject that will be of great interest to the majority of Hams, as well as being technically hot. Yes, this sort of article is a rarity, but all connected with the magazine find it fascinating, because we never know when such a prize will show up.

The following remarks are representative of our collective sins as would-be writers:—

1. We type our manuscripts with no extra spacing between lines and/or with little or no margins between the writing and the edges of the sheet. Manuscripts should be typewritten, if possible (or legibly written), on paper approximately 8" x 5½", with at least 1½" margins, and double spaces between lines. When the article is written, get the XYL to read it out aloud, you will see at once if it has continuity, and is legible to a person other than yourself.

2. We forget to send one or more pages of the manuscript.

3. We overlook the little matter of writing our name and the title of the article on each sheet of the manuscript, very important if the pages should become detached.

4. We fail to number the sheets consecutively, and sometimes place the sheets out of reading order.

5. We fail to include all constants in the wiring diagram. Draw the schematic clearly, mark all constants, don't worry about making a copper-plate drawing, our draughtsmen will do that for you, they know what is required by the block-makers.

6. We send a print taken on a small camera. A reasonable size print is required for blockmaking. If possible send the negative and advise if you want it returned.

THE SUBJECT

Of greatest importance is the subject, if it is a piece of equipment, expressedly for the man without a.c. power, that is acceptable. Many Hams have to use battery power in Australia. The conversion of a piece of commonly available ex-service equipment, a new antenna, receiver, or some transmitting gear, v.h.f. apparatus—the subjects are too numerous to mention.

The whole thing is so simple; merely sit down and think of what you did first in constructing your equipment or whatever it is. Make a few notes. Then write all about it. Take up the second step and write all about it. If there's some connecting point between the two, as there usually is, write it in the second step so as to make a logical connection. Proceed likewise until your story is finished. That's all there is to it. Let the Editor worry about "polishing up" the continuity of composition.

Calculating Distance of QSOs

(Continued from Page 8)

in Adelaide and Melbourne are 354.333 nautical miles apart. Multiply this by 1.1515 and we have 408.01 statute miles.

Reworking the above example by recourse to Napie's Analogy I got 408.07 miles and by vigorous application of the speriodial distortion of the earth's surface and the convergence of meridians, the true figure of 408.0817 miles is obtained.

It appears to the writer that some standard formulae should be adopted for arriving at the distances likely to be claimed in v.h.f. and u.h.f. work and the above formulae presents itself in that it is easily followed and worked

SUCH NICE PEOPLE

Victorian Divisional Council has ruled that the material contained under this heading must in future be signed by the person responsible for the writing.

I, as Editor, feel that at least "Gremlin" is entitled to make a statement, that I should justify my action in publishing the articles written by "Gremlin," and further, that the two people, who in the first place were responsible for "Gremlin's" appearance, should be permitted to defend their action.

I am aware of the identity of "Gremlin" and suffice to say that his personal integrity is of the highest, his technical ability cannot be challenged, and his writings were inspired by a sincere attempt to clean up Amateur Bands.

Thomas D. Hogan, Editor.

"GREMLIN'S" STATEMENT

Editor, "A.R.,"

Sir,

I understand you have been instructed by Council, Victorian Division, to publish my discourses under my call sign. I cannot agree to this for I firmly believe the article would no longer have the same value—however small—in this form.

Technically, I suppose you cannot accept this for publication minus call sign, but I'm sure Council will grant me the opportunity of saying "Au-revoir."

I am told several people have been greatly offended by my writings. To them I most humbly apologize, assuring you that at all times I criticised various sigs, having in mind nothing more than an earnest endeavour to assist in maintaining the high Amateur standard, in VK. At no time were my remarks intended to be construed as personal reflections.

Council, in their wisdom, issued this directive with, I believe, the thought "would 'Gremlin' have the courage to come out into the open?" To my mind, it is not a question of my courage, but one of satisfying the desire of the majority of members. With the ball prettily knocked back into my court, the directive by Council has diplomatically gained the objective—exit yours truly.

Remembering my fore-runner "QRZ" I now silently steal back into the shadows, thanking Hams, one and all, for what to me was a happy association. Especially I thank those many friends who have written words of thanks and encouragement even though many have "had a mention." I have enjoyed it, for I feel I got to know more chaps than when I was a DX chaser.

Cheers and good hunting,

"GREMLIN"

Editor "A.R.,"

We were surprised, in fact astonished, to hear that Council had issued a directive which prohibits further publication of "Such Nice People" unless the real name or call sign of the author is published with it.

We have since had from the President the basic reason for Council's action, and we believe that "Gremlin" has been victimised. We further believe that a fuller inquiry into the matter would reverse the decision made by Council.

As you know we originally vouched for the character, integrity and the technical ability of "Gremlin."

"Gremlin" will not continue his notes unless under a "non-de-plume." He is not contemptuous, deceitful, insincere, vindictive, or facetious.

His notes if published conditionally, as required by Council, would lose their "news value" for we believe an overwhelming majority of readers first turn to "Gremlin's" column when "A.R." comes to hand. No doubt, as Editor, you are aware of this fact more than we are.

May we ask that you use every endeavour to have Council re-consider the subject, for we believe that the majority of readers desire the continuance of these articles in the magazine.

Assuring you of our support, together with that of many amateurs with whom we have spoken on the subject of "Such Nice People,"

Yours etc.,

HARRY KINNEAR, VK3KN
ARTHUR EVANS, VK3VQ

ANNOUNCEMENT

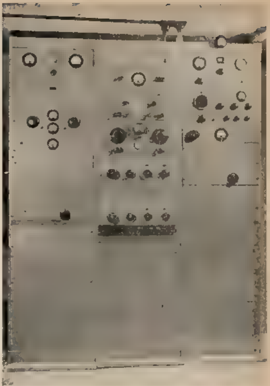
Interstate visitors are invited by the Victorian Division to avail themselves of the services of the Administrative Secretary, Mrs Cross, who will furnish suitable introductions and information if requested.

When in Melbourne call at 191 Queen Street, or ring FJ 6997.

VK4WI

The Transmitters and Receivers pictured here are operated by the Queensland Division of the Wireless Institute of Australia under the call sign of VK4WI. The persons responsible for the planing and construction of the station are to be congratulated on the completeness of the gear.

The use of three simultaneous channels for transmission of official broadcasts gives the Queensland Division the widest possible cover for the dissemination of its Divisional news.



The transmissions of the official Queensland W.I.A. station are probably well known to most VK4s and possibly to most VKs. Established in its present form shortly after the present Council started operations, it took over after the orignal set-up provided by VK4HA, and at present, under the control of VK4FN it operates on the following frequencies simultaneously: 7100 Kc., 14342 Kc., and 52004 Kc. The station commences operation at 0900 hours each Sunday morning when members are invited to join in the usual round table discussion on current topics and items of news. The news for the preceding week is broadcast at 0910 hours, after which the hook-up takes place, and in all nearly 30 members have at one time or another taken part in the proceedings including several VK2s. Frequency measurements are provided on nights specified in the Sunday broadcast, and this service is widely used according to operator VK4FN

As you've probably been wondering what's behind the panels, a description of the station follows. The left hand rack starting from the bottom contains bottom three panels are power supplies, panel with single knob, the modulators, meter panel; 7 Mc. exciter comprising 6F6 oscillator and 802 buffer link coupled to an 813 with 100 watts input.

The centre rack, again from the bottom is d.c. power supply for relays; two racks containing power supplies; a Jack Field; Power Distribution Panel for 14 Mc. transmitter; Relay Panel; Power Distribution for 7 Mc.; an 27 Mc. f.m. exciter, c.r.o. unit; Modulation Meter

The right hand rack contains the 14 Mc. equipment, in the usual order; bottom 4 panels, power supplies; Modulator Panel; 14 Mc. exciter made up of 6C5, 6N7, 807 driving an 808 p.a. with 100 watts input.

The antennae used are Verticals, mounted on the one pole. The 50 Mc. transmitter, not shown in the photo, is a DR106, a trans-receiver using a pair of 807s in the final; receiver is a superhet. It is hoped that the next time you listen to VK4FN doing his stuff over this fine set-up you at least will know something of what's going on. The receiving position is self explanatory except to add perhaps that the meter under the Microphone is a power level indicator.

PLATE MODULATING THE BEAM TETRODE

BY E. A. CHARLES, VK5YQ

The good book recommends either feeding the screen via a dropping resistor from the modulated plate supply OR the use of a separate winding on the modulation transformer Your attention is directed to another method that appeared in an advertisement by Eimac (valve manufacturers) in QST, May 1947. Here the screen is fed via an audio choke (10 henrys or more) from a fixed supply (say, your exciter voltage supply or from a voltage divider network on the main h.t.).

The screen is then "automatically" modulated because of normal variation in screen current under plate modulation.

It then becomes a simple matter to run the tube(s) at the correct—manufacturers'—ratings. With excessive (or absence of) drive your screen current/voltage doesn't go off on disastrous excursions.

The writer uses a Japanese 8 henry 30 mil. choke in the screens of push-pull 807s (with the usual 100 ohm resistors and 0.001 uF. condenser) When originally tried with a single 807, the same amount of audio was required for a given r.f. input for 100% modulation (on the c r.o.) as when using the screen dropping resistor. However, a slight increase in antenna current was noticed (antenna was a full-wave voltage-fed zepp) using the choke method

Your attention is called to two necessary precautions. Firstly, arrange the switching so that the screen voltage is never on without or before the plate voltage; and secondly, on c.w. it is necessary to short out the choke.

FIFTY AND UP

Compiled by VK3QO, to whom all contributions can be sent

DX.—Nothing of very much interest, only general contacts between VK and ZL on several occasions!!! The band was a so open over the south, central and eastern ha;f of VK at about the same time, only the VK6s being apparently left out in the cold.

According to reports, the ZLs were first heard in VK2 on the evening of 20th December while the first VK2 ZL contacts were made at about 7 a.m. on 21st December. The first ZL-VK3, VK7 and VK5 contacts were made later on the 21st. The ZLs were also worked on the 22nd and the 29th, and heard (.n VK3) on 5/1/48. Signals were mostly very good with some QSB. The Dunedin S.I.R. report the most intensive Sporadic E they have ever enco intered at the time the DX was on. Although the VK4s could hear the ZLs very well they could not ra'se them and so are rather sour at having missed out.

The ZLs are very up to date; most all of them using the "narrow band" technique, i.e. they tune their Receiver from 50 to 50.5 Mc. only. Many were the curses from VK stations, who, being outside this "charmed circle," called in vain. The band opened for interstate contacts on numerous occasions during December, the best occasions being on the 13th and 21st after which it "tailed off" gradually at the end of the month.

During the afternoon of 24/1/48, VK2AZ worked ZL3AW who came in briefly at approximately 1500 hours. This was done on a ground plane antenna, as a point of interest, whereas VKs 2NO and 2WJ had no luck with horizontal beams. Needless to say quite a number of the boys called rather fruitlessly. On 31/1/48 between 1030 and 1100 hours, ZL1CB was worked by VKs 2NO and 2LY. 2LY was working several of the ZLs during the day, although none of the boys down in Sydney were even hearing them (2LY it up in Katoomba)

VK6s have been heard on 50 Mc. by at least two VK4s. On Saturday, 27th December, VK4RR heard a VK6 but could not get the call, the signal being very weak; and on Sunday, 11th January, VK4XG heard a VK6 peaking at S8, 1250 E.S.T., but as far as we can gather 4XGgwas so overcome by the shock that he missed the call. The bird was in Subiaco however, and was rag-chewing with another VK6.

During January and February of 1948, 50 Mc. has opened several times between the eastern states, but not many contacts have been made. Keep a watch on the band, fellers, like 4BT. Reports of hearing 50 Mc. foreign signals should include time, date, frequency and remarks; our Editor is a sceptic! (i.e. a 7 Mc. man).

Some foreign DX has been logged by VK3TA in Horsham. On 4/1/48 at 1500 hours he heard KH6QQ at S7. On the following week-end (11/1/48) between 1100 and 1145 hours a series of W stations broke through Those heard were W8QGV W5BYM, W5VY, W7KAP and W2BQK? They were working amongst themselves and on the sign-over the call's were given quickly and only once. Their average strength was S7. On the same day at 1250 hours J8AAK was heard calling an unidentified station in Pearl Harbour. All these DX stations were heard between the low frequency end and the centre of the band. Unfortunately VK3TA was unab'e to call them owing to the transmitter being rebuilt. His beam was down and was using approximately 16 feet of wire (at about 60 degree angle) for reception. This proved better by two S points than a 66 ft. zepp with feeders tied together. He uses a converter (6AK5 r.f., ECH35 mixer) ahead of a AR7 for reception.

On 28/1/48 VK2WJ worked VK2AHM in Wentworth near the South Australian border. This was 2AHM's first contact on 50 Mc., and he was using about 5 watts input to a fencing wire rhombic. 7OW, 7NU and 5QR were also worked VK2GU in Canberra has been getting into Sydney very consistently of late and has been working 2JU, 2WJ and 2ALU on many occasions. 2PM, of Canberra, I understand is a new arrival on 50 Mc.

The last v.h.f. section meeting of the VK2 Division was held on 13/2/48 and was extremely well attended. In the absence of 2NP, v.h.f. officer, down in Melbourne, the chair was taken by Divisional President, 2VM, and the lecture was a very excellent one by Chas. Higgins (2ALQ) and Alex Sterne, both of C.S.I.R. Radio Physics Labs., who are engaged in the moon radar experiments. Everyone present was quite surprised at the amount of calculation (both astronomic and otherwise) which was necessary before this project was finally put into action. Newcastle and the Coalfields were represented by 2BZ, 2ADX, 2OO and 2RU who once again made the long trip down and back by road Other visitors to the meeting were 4NM and G3BMV, the latter from one of the ships then in Sydney.

"Short skip" in VK3 has been noticeable in February. Between 3RR at Macrae and 3VL at Red Hill 3 miles distant, rises a hill 1000 ft. high. Until a few weeks ago 3RR had never ever heard 3VL, but signals have been building up and contact should be possible soon. 3UI at Tatura (95 miles over ranges) has worked 3BQ and 3ABA in Melbourne. 3ABG with his new 4 element beam 55 ft high can now work the Melbourne boys also, 65 miles away over rough country 3VL and 3CI at Foster (68 miles) have worked cross-band and 3CI has heard 3HZ. 3BW has heard 3HZ (72 miles) strongly lately 3BQ still keeps lonely DX vigil at 1200 and 1500 hours each day on c.w (3RJ note!)

The 55 Mc. VK3 field day on the 11/1/48 was notable mostly for the country stations that were on. 3YS and 3ABA took their gear to Mt. Tarrangower, 76 miles N W of Melbourne and 2000 ft. high. Quite an interesting day, good weather and enough contacts to keep them busy from 1330 to 1830 hours. High noise level was noticed. 3US-3VL went to Arthur's Seat and contacted many stations. 3ABG was working from his usual location at Avenel. 3UI at Tatura had a number of fairly good contacts with Melbourne 3FF, working fixed portable at Korop (about 85 miles north of Melbourne) was also worked by the Melbourne boys, though fading was present 3RR fixed portable at Macrae was as usual well "stuck into them." Do microphones wear out with constant use?

These field days seem to encourage the country chaps very much and the continuance of 50 Mc field days is desirable if only for that reason.

During Xmas holidays 3VL-3US (Rex and his XYL Gwen) took their portable to Ballarat and district and worked everything on the band. Tx was 6V6 e.c.o. into 6V6 p.a.; Rx was 9002 6SJ7 6G6; 4 watts input Later they went to Yallourn where they worked 3RZ. 3ALS drove them to a hill outside Yallourn where a CQ netted 3GL, which gave 3ALS a big surprise! 3HZ, 3AKM, 3HK and 3YJ were also worked. On the way home they worked 3AKM and 3HZ mobile

PERSONAL PARS

2JU and 2NP have worked 2GU in Canberra consistently, a matter of 180 miles, and 2JU has been getting reasonably consistent results with the chaps in the Young district. GW3BBG is now settled in Sydney and uses the call VK2AGW G5PO and G5UB/VE7ALO (mobile marine) also visited Sydney The mobile marine tests will be repeated when he sails again in a few weeks. 2TI, 2PF and 2PJ managed to be present at the v h.f. section meeting and were warmly welcomed.

There is a movement in VK2 to populate the higher end of the band. It was noticed when the DX came so thick and fast that QRM was quite a problem between 50 and 51 Mc. whereas there were only a few voices "crying in the wilderness" from 51-54 Mc. We have no proof whatever that DX only comes to the lower end of the band, in fact 2NO has repeatedly heard some ZLs working around 53 Mc. The VK2 boys when calling intend to state that "this station will look over the band, starting at the HIGH frequency end." Stations should also sign in c.w., it is felt, as weak phone stations can't be always copied.

In VK3 the country chaps are slowly building up a network, the latest addition being 3DI at Leongatha who has worked 3HK and 3VL. 3KX at Colac has also been heard. The boys at Ballarat are by now only rated as "local" contacts.

3RR, 3BD, 3HK and 3DH have been making f.m. tests on 50 Mc. 3HK and 3BD use v.f.o's and reactance tube modulators and modified link receivers. 3RR uses an 3.4 Mc. xtal and "narrow band" modulation and a standard AMR receiver in its sharpest position. Results so far are inconclusive, although it appears that a certain level of signal is needed to make the limiters work properly

3VL is keen. Lacking a car, he piled his portable gear in a wheelbarrow and pushed same a mile or so up a hill, and then was quite ready to sit down and just QSO for a change! 3EH is busy on separate rigs for 50, 28 and 14 Mc. Intends next S meter ot go "round and round" (due to 3RR's new rig) Next Rx to be RL7. RL18 and CV6 osc.

Ray Jones' outburst on page 21 of February "A.R." concerning 50 Mc. "dulcet windy verbosity" calls for answer. There is far less "tripe" on 50 Mc. than on the lower frequency bands as the boys are too busy discussing special v.h.f. problems; the fact that Ray listens on 50 Mc. proves this. "Absence of c.w." is most probably due to his Rx which (by rumor) is a "rushbox"[!! 3BQ, 3CP, 3PG, 3HT, 3HK, 3YS, 3ABA, 3BD for example, all use c.w. and if Ray calls on c.w. he will have plenty of contacts—from blokes after his blood!

In VK4 ex-4LP ex-2YQ, has been taking his broad band converter to different shacks. 4ZU has 4 element wide-spaced beam at last. 4KB has a reflector which prefers to be a d rector. The Brisbane boys are seeking the co-operation of the country boys in extended ground wave work. It is felt that the use of beams wi l help considerably; also calls on c w.

The only outstanding performance in VK4 of late was the reception of 4ZU by 4AB at Palm Beach at S9. The distance is only 60 miles, but it represents the best local DX worked yet in the Brisbane area. Details—4ZU used a 4 element horizontal array. 4AB a Kingsley Converter and a combination of a 7 Mc. zepp and a 50 Mc. vertical. A two-way test the next week failed due to the

(Continued on page 23)

FEDERAL, QSL and DIVISIONAL NOTES

Federal President.—W. R. Gronow, VK3WG; **Federal Secretary.**—W. T. S. Mitchell, VK3UM, Box 2611W, G.P.O., Melbourne.

NEW SOUTH WALES

Secretary.—Wal Nye (VK2XU), Box 1734, G.P.O., Sydney

Meeting Night.—Fourth Friday of each month at Science House, Corner Gloucester and Essex Sts., Sydney

Divisional Sub-Editor.—R. Dea, 209 Oberon Street, Coogee

Zone Correspondents.—Newcastle: E. J. Baker, VK2FP, 13 Skelton St., Hamilton, Newcastle; **Coalfields and Lakes:** H. Hawkins, VK2YL, 27 Comfort Ave., Cessnock, **Western.** G. J. Russell, VK2QA, Canonba Street, Nyngan, **South Coast and Tablelands:** L. H. Vale, VK2ANN, Box 73 Bega, **Southern:** E. N. Arnold, VK2OJ, 673 Forrest Hill Ave., Albury

VICTORIA

Secretary.—A. B. D. Evens, VK3VQ, Box 2611W, G.P.O., Melbourne, Telephone FJ 6997

Meeting Night.—First Wednesday of each month at the Radio School, Melbourne Technical College.

Zone Correspondents.—North Western: B. R. Mann, VK3BM, Quambatook, **Western:** C. C. Waring, VK3YW, 12 Skene St., Stawel, **South Western:** B. Sectrine, VK3BI, 17a Raglan Street North, Ballarat, **North Eastern:** D. Tacey, VK3DW, 18 Harold St., Shepparton

WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK2WI.—Sundays, 1100 hours EST, 7190 Kc. and 2000 hours EST 50.4 Mc. No frequency checks are available from VK2WI

VK3WI.—Sundays, 1130 hours EST 7196 Kc. Spot frequencies every fourth Tuesday, between 7000 and 7200 Kc. every 10 Kc. Individual frequency checks of Amateur Stations given when VK3WI is on the air

VK4WI.—Sundays, 0900 hours EST simultaneously on 7109 Kc., 14342 Kc. and 52.004 Mc. Frequency checks are given two nights weekly, and the hours are announced during the Sunday broadcasts.

VK5WI.—Sundays, 1000 hours SAST on 7168 Kc. Frequency checks are given by VK5DW on Friday evenings on the 7 and 14 Mc. bands

From VK6WH.—Sundays, 0930 hours WAST on 7168 Kc. No frequency checks available

VK7WI.—Second and Fourth Sundays at 1030 hours EST on 7174 Kc. No frequency checks are available

QUEENSLAND

Secretary.—R. Thorley, VK4RT, Box 638J, G.P.O., Brisbane

Meeting Night.—Last Friday in each month at the State Service Building, Elizabeth St., City.

Divisional Sub-Editor: H. T. MacGregor, VK4ZU, "Moquet," Eildon Rd., Windsor

SOUTH AUSTRALIA

Secretary.—E. A. Barbier, VK5MD, Box 1234K, G.P.O., Adelaide

Meeting Night.—Second Tuesday of each month at 17 Waymouth St., Adelaide

Divisional Sub-Editor.—W. W. Parsons, VK5PS, 483 Esplanade, Henley Beach

WESTERN AUSTRALIA

Secretary.—W. E. Coxon, VK6AG, Howard St., Perth.

Meeting Night.—Second Monday in each month at the Builders' Exchange, St. George's Terrace, Perth

Divisional Sub-Editor.—R. W. S. Hugo, VK6KW, 8 View St., Subiaco

TASMANIA

Secretary.—J. Brown, VK7BJ, 12 Thirza St., Newtown, Telephone W 1328

Meeting Night.—First Wednesday of each month at the Photographic Society's Rooms, 163 Liverpool St., Hobart

Divisional Sub-Editor.—W. W. Watson, VK7YY, 12 Cromwell St., Battery Point, Hobart

Northern Correspondent.—C. P. Wright, VK7LZ, 3 Knight St., Launceston

FEDERAL

HAMS WHO LOST THEIR LIVES DUE TO SERVICE

VK2AJB—A. C. Curle	Unknown
VK2BQ—F. Easton	R.A.A.F.
VK2AV—C. D. Roberts	A.M.F.
VK2VJ—V. Jarvis	R.A.A.F.
VK2YK—W. Abbott	R.A.A.F.
VK3DQ—J. D. Morris	A.M.F.
VK3HN—J. McCullish	A.M.F.
VK3 E—J. K. Hann	R.A.N.
VK3NG—N. E. Ganter	M.N.
VK3OR—M. D. Orr	R.A.A.F.
VK3OW—G. L. Templeton	R.A.A.F.
VK3PL—J. I. Cothrup	R.A.A.F.
VK3PX—J. P. Veall	A.M.F.
VK3SF—S. W. Jones	A.M.F.
VK3UW—J. A. Burrage	R.A.A.F.
VK3VF—J. E. Shallon	R.A.A.F.
VK4DR—D. Laws	A.M.F.
VK4PR—R. Allen	R.A.A.F.
VK5AF—C. A. Ives	R.A.A.F.
VK5GP—G. Phillips	A.M.F.
VK5 S—J. Mann	R.A.N.
VK6GR—A. H. G. Ripper	R.A.N.
VK6JG—J. E. Goddard	R.A.A.F.
VK5KS—K. Anderson	A.M.F.
VK7LP—L. P. Hyland	A.R.P.

The above names and details have been received by Federal Executive. Anyone knowing of any name not included on the above list or errors therein should communicate with F.E. at the earliest.

ANTARCTIC EXPEDITION

Federal Executive are pleased to announce that arrangements were made (and only finalised at the last minute) for the licencing of an Amateur on the H.M.A.S. "Wyatt Earp," the vessel being used by the Australian National Antarctic Expedition. The call is VK1AA and the operator Mr. Ted McCarthy. The W.I.A. arranged the loan of a Type 3 Mark II and crystals of 7019, 7087, and 7186 Kc. The station will operate on 7 and 14 Mc.

The Federal Executive are making arrangements to have QSL cards printed and these will be sent out on the vessel's return to the mainland. Please send your QSLs care of VK3UM. Cards will be sent out only on receipt of incoming QSL.

All Amateurs are urged to adopt fair operating practices and keep v.f.o's off the frequencies above when the station is in operation. The first contact honors go to VK5CR, Charlie Cheel.

CERTIFICATES

The various certificates mentioned in these notes last month are now completed and outstanding DX Contest Certificates for the 1946 and 1947 Contests will be the first to be issued. There are some 300 to be made out and signed so please bare with us a while longer. Due to postage difficulties, certificates for each Division will be sent to the Divisional Council for issue to the winners.

GERMAN CALLS

It has been learned that the American Occupation Forces in Germany are now being issued with new prefixes. Those so far known are:—

DA1—Stuttgart;
DA2—Munich;
DA6—Hamburg.

EXTRACTS FROM I.A.R.U. CALENDAR TO THE FEDERAL EXECUTIVE

W.I.A. Convention Proposal Submitted to Member Societies

At its 1947 Annual Federal Convention, the W.I.A. directed its Federal Executive to approach I.A.R.U. and "seek international member-society comment on the desirability of sub-dividing the high frequency amateur bands into phone and c.w. sections." An appended note by the Society's Secretary mentions "We feel that any such sub-division should be on a voluntary basis rather than being achieved by government regulations in each country."

A world-wide agreement, or series of regional agreements, on the division of our bands as between phone and c.w. would indeed be a marked step forward in Amateur Radio. There are many practical problems which must first be solved, however, and we would be remiss if we did not mention them. Perhaps the principal difficulty is the differences in attitude shown by the amateurs of various countries toward the two modes of emission. For example in many countries the interest seems to run about two-thirds c.w., one-third phone, but in some countries such as those of Latin America, the interest is about 90 per cent. phone. Then, there are technical aspects of the problem—propagation conditions and, to some extent, power permitted amateurs in each country.

Another difficulty is the fact that under international and regional treaty allocations, the available widths of amateur bands differ in various countries, this is especially true under Atlantic City as concerns the 7 Mc. band. Finally the successful working of any such agreement, voluntary or backed up by regulations, depends entirely upon whether UNANIMOUS CONSENT to and OBSERVATION of the agreement can be had. One small group of amateurs failing to observe an otherwise-agreed scheme would disrupt the entire plan.

In a practical approach to this problem, we must revise our thinking that it is simply a matter of making up a chart and dividing the bands as between (1) phone and (2) c.w. Actually, as a purely technical matter arising from the great number of U.S. amateurs, there must be three classifications —

1—U.S. phone;
2—Non-U.S. phone;
3—C.W.

Because the frequencies assigned to phone in the United States are well occupied with signals of considerable strength and the frequencies are therefore "monopolised," it has been the custom of non-U.S. phone stations to operate outside the U.S. phone bands. Usually they locate themselves just below the United States assignment, as a matter of habit as well as indicating a desire to remain as close as possible to U.S. phone bands so that two-way contact may be facilitated. The existence of these non-U.S. phones has a considerable effect on the usefulness of the remaining "c.w." band, since the channels they occupy are not useful at all for c.w. work. In any band division, then, if we chart c.w. as "white" space and phone as "dark" space, there is an intermediate area of indeterminate width which will be occupied by non-U.S. phone stations.

In fact, A.R.R.L. points out that in its own internal band-planning on frequencies of international range, it is obliged to take into account the effects of non-U.S. phone stations operating in what (by U.S. regulations) is technically solely a c.w. band.

All these factors are well appreciated by planning groups of member-societies which have studied the international effects of our bands as between phone and c.w. V.E.R.O.N., for example, gave study to this general problem some months ago (as published in the December 1946 issue of QST) and forwarded a proposal to I.A.R.U. The Headquarters asked V.E.R.O.N. that its suggestions not then be considered a formal proposal for the Calendar because of the imminence of the Atlantic City Conference.

R.S.G.B. has taken perhaps the biggest step forward in international band-planning. Its Council has established a Codes of Practice Committee having, among other duties, the task of studying amateur use of bands on an international basis, and making specific recommendations for band divisions as between phone and c.w. Realising that it is more than a one-society problem, R.S.G.B. has written each of the European societies to ask whether there is sufficient interest to form a regional study group. If the responses are encouraging, R.S.G.B. expects to convene a meeting of representatives of European I.A.R.U. societies to discuss band-planning. Any specific recommendations resulting from such a meeting will be placed before I.A.R.U.

Headquarters will be pleased to have the further comments of member-societies on the W.I.A. suggestion.

CONTESTS

At the same meeting W.I.A. discussed the matter of world-wide contests sponsored by individual member-societies. It was noted there had been some difficulties resulting from failure to notify amateur societies of the world sufficiently far in advance of the contests to permit amateurs generally to become acquainted with the competitions. It is W.I.A.'s suggestion that member-societies, when planning operating contests of international scope, arrange to release announcements and rules-data well in advance so that they may be picked up

and published by the official organs of other societies. In this connection, "I.A.R.U. News" will be glad to receive and publish any such contest announcement material.

MEMBERSHIP CHANGES

The Headquarters feels it necessary to delete from the membership list the name of the Experimental Radio Society of Egypt. No word has been received from the Society since the war. Correspondence to the pre-war address has been returned. Allied servicemen in Egypt, requested by the Headquarters to trace the society's whereabouts, have not been successful. The Headquarters is obliged, therefore, to drop E.R.S.E. from the membership roster.

We are delighted to announce the re-establishment of our Netherlands Indies member, N.I.V.I.R.A. Active in the reorganisation work have been J. v. A. W...ms, Ph.L.M., A. te Riet, Ph.BI, L. A. M...s, Ph.EA, P. W. G. Poo, PKIPJ, and J. W. A. M...s, PKIM. An office has been established, with mail address as Post Box 19, Batavia (Java). The society is obliged to report, however, that a temporary government measure exists which prohibits the operation of amateur stations in the Netherlands Indies.

As a result of ballot taken by Headquarters three Societies have been admitted, namely:—The Chinese Amateur Radio League (C.A.R.L.) as the member society for China, The Radio Club de Chile (R.C. Chile) as the member society for Chile, and The Radio Club Paraguayo (R.C.P.) as the member society for Paraguay.

Speaking on behalf of the other members of the Union, a number of whom expressed sentiments of congratulations, the Headquarters extends to C.A.R.L., R.C. Chile and R.C.P. a cordial welcome and hearty good wishes.

The S.A.R.R.L. section in South Africa has changed its name and is now known as the South African Radio League. The League felt that the word "relay" in its name did not properly reflect the [illegible] of the society's aims and interests.

The S.A.R.L. writes as follows:—"It is much to be regretted that a number of amateurs in different parts of the world have flagrantly and deliberately disregard the rules of amateur operation, and, in particular who operate outside the amateur bands. By this type of operation they receive an unfair advantage over the law-abiding amateurs. It is felt that such amateurs should be disqualified from obtaining such honours as the W.A.C. Certificates, DX [illegible] and so forth.

"The South African Radio League therefore proposes that any amateur who is deemed to be guilty of out of band and any other illegal practice should be disqualified from receiving W.A.C. and other I.A.R.U. awards for a period of [illegible] from the [illegible], and that all contacts prior [illegible] should be considered as void."

S.A.R.L. has agreed in correspondence with the Headquarters that this should be a subject for society comment but should not, at least at present, constitute an official proposal. The Headquarters would be glad to hear from additional member societies in this respect.

NEW MEMBER PROPOSED

The Islenskir Radio Amatorar is the national amateur society for the Republic of Iceland. It has a total membership of 214, including all licensed amateurs, who number only 9. The official address is P.O. Box 1080, Reykjavik. Membership dues are 24 kronur per year, equal to 3.70 dollars in U.S. currency. Present officers of the society are: E. Palsson, President, S. Bjarnason, Vice-President, T. Matthiasson, Hon. Secretary, E. Hagan, Hon. Treasurer.

In addition, there are three directors. The society maintains liaison with government authorities, and has obtained the issuance of amateur licenses. At present, operation is permitted on amateur bands above 14 Mc., similar in width to those of the Scandinavian countries. The society publishes a magazine, "Utvarpstidindi," and maintains a QSL bureau system for its members.

The Danish section of I.A.R.U., in past years has claimed representation on behalf of Iceland, but E.D.R. has informed the Headquarters that it now fully supports the membership application from I.R.A.

Federal Executive of the W.I.A. have recorded an affirmative vote in this regard.

CHANGES TO CALL SIGNS, ETC.

Alterations:—

VK2ABZ—W. F. Bardin, 6 Lepington Ave., Eastwood, N.S.W.
2ACI—R. Pike, c/o. Coonamble Ice Works, Castlereagh Street, Coonamble.
2AGA—T. E. Ham, 35 Hampton Court Road, Carlton.
2AJN—J. R. Jarman, 38 City Road, Chippendale.
2BW—A. S. Moye, P.O. Box 72, Wagga Wagga.
2DR—D. W. Reed, 60 Pacific Highway, Waitara.
2IC—M. J. McDonald, 40 Carabella St., Kirribilli.
2KS—C. F. Peddell, 107 Kemp St., West Kempsey.
2LA—L. K. Adams, 19 Norman St., Wollongong.
2LB—S. Boryas, 118 Darling Point Rd., Darling Point.
2NH—N. L. Ancher, 16 Coronation Ave., Mosman.
2RZ—R. B. Dufty, "Bannerman Court," Bannerman St., Cremorne.
2VW—V. H. Wilson, Wilson St. and Maxine Pde., Maroubra.
VK3AKA—K. H. Hughes, 90 Kennedy St., Castlemaine, Vic.
3ANC—N. B. M. Chapman, Gibson St., Trafalgar.
3ASD (in lieu VK7KA)—O. S. Dahl, c/o S.E.C., Kiewa.
3FW—W. A. Fulton, Eurolie St., North Balwyn.
3FY—W. G. Clark, Wallace Ave., Hughesdale.
3IQ—K. J. Duff, Carabrook, via Maryborough.
3IT—T. J. Coakley, 24 Wild St., Regent.
3IX—C. J. Reed, 760 Barkly St., West Footscray.
3LW—R. W. Cranch, 107 Green St., Richmond.
3MR—M. R. Campbell, Clyde.
3OD—F. C. Deaman, "Titinga," Lismore.
3LW (in lieu of VK6NP)—G. S. Benrose, 22 Mary St., Coburg.
3WD—W. D. Mather, 59 Carroll Cres., Gardiner.
3XV (in lieu of VK5CA)—C. R. Anderson, 39 Holloway Rd., Sandringham.
VK4VK—R. A. J. Taylor, c/o Station 4VL, Alfred St., Charleville, Qld.
VK5BD—D. R. Briggs, Jervis St., South Plympton.
5CG—C. G. Cleveland, 3a Stanley St., Leabrook.
5MJ—J. H. Micklem, Thirhell Ave., Sunnyside.
5TL—T. Laidler, Jetty Rd., Largs Bay.
5WE—A. E. Prince, Camroc Ave., Plympton.
VK6AY—A. Y. Treasidder, 22 French Ave., Merredin.
6EJ—A. W. Grogan, Port Hotel, Carnarvon.
6RB—E. F. Robins, 3rd York Rd., Northam.
6RG—E. R. Harvey, Sackville Tce., Scarborough.
VK7LE—L. W. Edwards, Strickland Ave., Hobart.

Cancellations:—

VK2AMI has not been cancelled—F. J. Carey, 35 Ridge St., North Sydney.
VK7JW—J. C. Wallis (deceased), Marlborough St., Longford, Tasmania.

New Issues:—

VK1AA—E. McCarthy, H.M.A.S. "Wyatt Earp," National Antarctic Expedition.
VK2DK—A. C. B. Macartney, Mulgate Stn., Narrabri.
2KK—A. F. Stoker, 209 River St., Ballina.
2ME—E. J. Korkin, 35 Norfolk Rd., Epping.
2MF—C. M. King, 11 Albert St., Corowa.
2NY—D. G. Gilder, 17 Onslow Ave., Elizabeth Bay.
2OL—L. L. Squire, Karuah St., Thornton (Portable).
2SB—R. W. Chaplin, 80 Ray Rd., Epping.
2SO—S. M. Waters, 8 Short St., Gladesville.
VK3ACO—D. A. Greenham, portable of VK3CO.
3CW—K. J. Millbourn, 5a Melville St., Hawthorn.
3IY—A. P. Thornton, 28a Maud St., North Balwyn.
3JM—M. D. Lodge, 5 Birdwood St., North Essendon.
3OO—G. E. Wardle, 158 High St., Ashburton.
3OX—J. W. Watson, 127 Dundas St., South Preston.
3PV—D. B. Shaw, 682 Glenhuntly Rd., Glenhuntly.
3QV—W. J. M. Bridge, 14a Crisp St., Hampton.
3UB—H. L. Byrne, 21 Wolseley Gve., Brighton Beach, Vic.
3VB—Mrs. C. M. Adams, 7 Wellman St., Box Hill.
VK4MP—Rev. M. C. Pay, 186 Chatsworth Rd., Coorparoo.
4RL—W. W. Newman, Collinsville.
4SF—S. J. Ford, 75 Station St., Booval.
VK5CD—C. A. Doddridge, Keyneton, S.A.
5CZ—R. I. Scott, 82 Pulsford Rd., Prospect.
5LA—R. N. Lane, 3 Farah Place, Redfern West.
VK6XF—F. R. Whitfield, Kojonup Rd., Katanning.

FEDERAL QSL BUREAU

RAY JONES, VK3RJ, MANAGER

DEM6753 ex-D4FBA, Waldemar Kohler, 24b, Husum-Nordsee, Kampsiedlung Lund 17, Schleswig-Holstein, Brit.-Zone, Germany, in requesting confirmation of a report, states, "QSLs are the only connection of German Amateurs with our friends abroad. I think we have to wait long time for restoration of our licences and would much desire to exchange magazines, stamps and friendly correspondence with any amateur station."

Advice from Belgium notifies the death, on 1st November, 1947, of Maurice Caron, 30 rue Thiers, Boulogne-sur-seine, France. Maurice was a short-wave listener of many years' experience and well known throughout the amateur world.

Barry Clarke (VK2ADR), of Broken Hill, has returned to the VK5 area as from January. He is now located at "Warrandyte," Karong Ave, Mitcham, via Edwardstown, S.A., where he will operate under the call sign of VK5BS. VK5 and VK2 QSL Managers please note.

The C.A.V.—national society of the Czech Amateurs, wishes it to be known that a pirate station is very active on all the amateur bands using the call sign OK3AA. It is believed that the pirate station is located in Central Germany.

The QTH of the re-established Amateur Society in Hong Kong is H.A.R.T.S., P.O. Box 541, Hong Kong.

182J G. Chiffey, advises that the following stations are operating in Eritrea:—

I6USA, U.S. Army Radio Station, APO843, New York.
W6VKV I6, U.S. Army Radio Station, APO843, New York.
I6AR, QSL via A.R.I. (He is ex-I1AHO/I6 and ex-I7AA.)

MD3AB (in operation shortly) Eritrea Signal Squadron, M.E.L.F.5.
I8ZJ (QSL via R.S.G.B.)
ET1JJ (now QRT) was actually in Eritrea and NOT in Ethiopia. He did not and will not QSL.

HE1FO located at various towns in Liechtenstein, is quite a[illegible] I is the portable station of HB9FO, Ralph Graub. Farberstr 37, Zurich 8, Switzerland. He was [illegible]ring Liechtenstein during the latter months of 1947.

For the Philatelists:—CE4BP, Sergio Lairain, Casilla 27, Parral, Chile, South America.

Vic Shillcock (VK3VS) hopes to get active on 50 Mc. from Canberra very shortly, and is removing gear from his home QTH in Sydney for the purpose.

ON4HC is on 3515 Kc. daily from 0500 to 0700 GMT endeavouring to contact VKs and ZLs.

The following is an up-to-date list of licencees in Fiji—VR2AD, 2AN, 2AO, 2AP, 2AQ, 2AT, 2AU, 2AY; all active on 28 Mc. and all located at Nadi Airport, 2AR Laucala Bay, 2AX Laucala Bay, 2AW Suva, and 2AS the QSL Manager, Stan Mayne, Box 184, Suva.

Jim Wetherall (G5UB/P) left Sydney for VE/W on 4th February and will be on 7, 14, 28 and 50 Mc. Jim hopes to give the "Six" gang some unusual DX whilst he is around the Islands. He will be able to reply to 50 Mc. calls on any of the four bands if anyone desires or conditions demand a crossband contact. He will be returning to VK from W/VE in a few months and the same opportunities will again exist. Jim is always on the Ham bands around 1000 GMT.

NEW SOUTH WALES

NEWCASTLE ZONE

2HZ is doing good work on 50 Mc., and worked [illegible] [illegible] miles distant. 2AHA mainly on 14 Mc. [illegible] has 50 ft. mast up, won't be long now. 2PQ has new [illegible] back and promises himself a 28 Mc. [illegible]. 2[illegible] with a new welded rack is going ultra [illegible]. 2[illegible] is changing from series to plate [illegible]. 2[illegible] [illegible]ing with fine phone on 28 Mc. for the band to [illegible] open. 2ANG going back from v.f.o. to crystal. 2ADX in Maitland is putting [illegible] signals into Newcastle on 28 Mc. Congrats to 2[illegible] on winning 14 Mc. section of the VK DX Contest. 2AMM is on 7 Mc. from new QTH. The XYL is interested in radio too. 2MC, a new Ham, is putting out a nice signal on 7 and 14 Mc. 2CI helping the new boys a lot. 2AML getting some fine DX. 2FP has been away on holidays.

WESTERN ZONE NOTES

Congratulations to Gordon and Dr. Freddie of Dubbo with new A.O.C.P., will both be heard shortly. 2II is busy revamping Receivers for various members. 2WH has one of the above mentioned BC348s, V beam still won't work. 2NS also has a new receiver and a W.A.C. in two hours on 14 Mc. 2ACL also has a new receiver, where do they come from? 2ACT operated portable in the mountains while on holidays. 2AMB has completed the shack and is resting on his laurels. 2IC has been reported on 7 Mc. 2TG and 2ALX of Orange are both plugging away at DX C.C. 2EI an old timer, has been heard again. 2IE still on 14 Mc. chasing DX. 2EX working 7 and 14 Mc. bands with varied V beams in the trees. 2AIK has revamped the rig and has a new AR8. 2QA has a new speech amp (no one would have known). 2HZ allowing two weeks of his holidays to complete receiver. 2LY, with [illegible] Mc. beam on VK3, wants one to catch up with gang. 2AFO going on 50 Mc. also. 2LZ still on the v.h.f.

COALFIELDS AND LAKES ZONE

2MK broke out on 7 Mc. again or should the prepositions be reversed. 2PZ used his holidays to re-organise shack, with 2XT toured Newcastle shacks collecting more gear! 2KP on 14 Mc., rock crushing" trites defeating attempts to make 28 Mc. 2AZ firmly convinced no Hams in Vermont on 28 Mc. phone, nearly prepared to give up idea of W.A.S. 2ADX appeared on 28 Mc. from 150 Mc. after working with 2TY, both complain others are using their calls, QSLs can be collected. 2OC busy on new 28 Mc. rig with special allowance for 21 Mc. 2RU with a new four element beam on 50 Mc. turns it on the line transformers to burn them up. 2AMU busy with a new receiver. Zone Officer (2YL) is laid low in hospital and all members hope for a speedy recovery. 2ADT back after six weeks' holiday; unlike the DX, the good ones all got away.

VICTORIA

The monthly meeting of the Division was held at the Melbourne Technical College on the 4th February. Visitors introduced and welcomed were 2ZB, 3GZ, 5MB, 5CU, and 6DX.

Following a suggestion by Mr. Marshall, it was decided to develop an informal discussion group at the Institute Rooms to take place before each general meeting. The first of this gatherings proved to be most successful and was especially appreciated by those members who remain in the City on the night of a general meeting.

A brief explanation of the items which had been accepted for the Agenda of the State Convention was given by the President, Mr. Cunningham and further items were then submitted by members.

A suggestion of showing some mark of respect at the general meetings for any Amateur who has passed on was sympathetically received and the Federal Councillor was requested to refer this matter to Federal Executive for consideration.

Mr. Neil Smith was introduced and provided an interesting demonstration by the use of a graph to be used in determining ionospheric predictions. It is hoped that Mr. Smith would be able to go more fully into the subject for the benefit of members at some future meeting.

The State Convention, at which approximately 50 members were in attendance throughout the day's proceedings, was held in the Institute Rooms at Queen Street, Melbourne, on 7th February, the Divisional Zones being represented by Mr. Bruce Mann (3BM) from the North Western Zone, Mr. Howard Wohlers (3YV) North Eastern Zone, Mr. G. Weynton (3XU) Western Zone, and Mr. W. Ross (3UT) South Western Zone.

Other members from the country included W. J. Kinsella (3AKW), Lubeck, H. B. Dobbyn (3MF), Mildura, R. N. Whaley (3WZ), Wangaratta, G. S. Vincent (3AGV), Colac, R. Tandy (3KX) Colac, M. Folie (3GZ) Mildura, W. R. Barber (6DX), Kalgoorlie, W.A.

Mr. R. Cunningham (3ML) presided and addressed the Convention; "the object of the Convention being held was to direct Council activities for the following year, so that Council could plan and formulate a policy for the future. Then continuing, "As the Victorian Division has a very strong country membership, the Zones should have an opportunity of voicing their opinions on administrative matters and it is at these Conventions that the representatives can do so."

The Agenda as presented for discussion contained 39 items and of these, the items relevant to the Zones were grouped for purposes of general discussion and representatives spoke in turn on behalf of their Zone.

Arising out of these discussions has been the decision to form a new Zone within the Division and it is to be known as "the Far Northern Zone". This Zone is beyond a line from Pinaroo to Nyah and takes in Mildura and Ouyen.

From the comprehensive list of items debated, seven of these have been put down for inclusion on the Federal Agenda and a recommendation made that the attention of the Federal Convention be invited to the Editorial in QST of December, 1947.

All remaining items were fully discussed to some length and at the close of the debate on all matters the Convention terminated at 5.45 p.m.

Intimate details of the day's proceedings and motions were fully broadcast from 3WI on the Sunday morning broadcast of 15th February for the interest of all members.

Following the more serious side of the Convention the first "Ham Fest" was held the next day, Sunday, 8th February, at the National Park, Yarra Bend, and with Melbourne weather at its best for this social occasion, members and families enjoyed the outing to the fullest extent. During the afternoon footrunning and novelty races were held for the children and adults, handsome prizes being provided.

T.A.C. MEETING

At the January meeting of the Committee, activities during 1948 were discussed generally. Among the suggestions put forward was a request for a practical summary of the published ionospheric prediction data, to be presented in a form, which if not embracing all conditions to be met with, will at least provide some useful information in a readily assimilable form for amateur use. T.A.C. expect to be able to supply this information during 1948, both for publication in the magazine and for broadcasting from VK3WI.

V.H.F. Group

At the January meeting of the group VK2KI and VK2NP were present as visitors, and were able to give an outline of v.h.f. activities in the N.S.W. Division. VK3EM brought along his modified SCR522 receiver and this was examined with great interest by those present. The v.h.f. group meets on the second Wednesday of each month.

Receiver Group

At the January meeting of the group tracking problems in superheterodyne receivers were discussed. The uses and limitations of the theoretical formulae were commented upon and Mr. George Neilson described suitable practical means of adjusting a receiver to give exact tracking at three points in the tuning range. Tracking problems at very low and very high frequencies were discussed and the necessity for correct design of the aerial coil to suit the antenna used was mentioned. The receiver group meets on the fourth Wednesday of each month.

FOOD FOR BRITAIN FUND

At the last general meeting of the Division, a collection for the Appeal was made and yielded the sum of £10/5/11. This brings the total receipts to 8/- under £250 since the Appeal commenced in April, 1947. Total expenditure on food parcels amounts to £201/9/11 which represents 250 parcels. The Fund is still in hand with a balance of £48/7/1. The Committee wish to thank 3CN, 3JK and 3BP for recent generous donations. What about some donations from the Eastern Zone, Graham?

CENTRAL WESTERN ZONE

Zone hook-up last month was notable for its short and snappy procedure. Apparently there was a State Convention on in Melbourne so only two stations were on, 3EP and self, so not too much information came from that. The big news of the last four or five weeks has come from 3TA and 3WC in Horsham with their reception of 50 Mc. sigs from KH6 and W in addition to ZL. The most surprising part of it was that 3TA was only using a plane antenna two waves long straight to his antenna

terminal. Byron uses a Kingsley Converter ahead of an AR7 and Claude a double conversion super 6AK5 to a ECH35 to 10.7 Mc., then to 455 Kc. Claude is also building a 100 watt Transmitter for 50 Mc. using 832 so should be in the running when the band comes good. Ye scribe is getting excellent reception also from the local doctor's diathermy machine about half a mile away.

There is no doubt that fashion moves in circles. Heard 3IQ from his new QTH busy working 3GN one Saturday night, and was amazed when Kevin mentioned he was using an E406 in a Hartley oscillator with 6 watts and, believe it or not, LOOP modulation ("Gremlin" please note what you missed). However the quality was better than others heard on the band.

3XO has erected a three element beam for 50 Mc. and is building a transmitter and converter for that band. 3IQ has a self-excited job on 50 Mc and reckons to work at least into Maryborough.

3DP is busy with a new shack, and when everything is finished and Jim gets his AT5-AR8 combination going he will have an f.b. set-up. 3AKP is at present bogged down with power leaks, tough Keith when you help make the juice that makes the QRM. However Stawell is due for further QRM as two of the locals are busy swotting.

Apart from the beautiful diathermy notes heard on 50 Mc. ye scribe by some outstanding miracle worked LU4DJN on 14 Mc. so after nearly 10 years trying has at last made W.A.C. Incidently LU4DJN had I suppose what one might term a 1025 note. Well gang that's all for now—see you next hook up—Sunday, 7th March, 10 p.m. on 7050 Kc.

NORTH-WESTERN ZONE

Delegates from the N.-W. Zone got together at the Sea Lake Convention and settled our difficulties re transport and communication between the widely separated ends of this large Zone by dividing the Zone into two. The new "Far North Western Zone" is beyond a line from Pinaroo to Nyah and takes in Mildura and Ouyen. Kerang, Swan Hill and Sea Lake are the main centres in the N.-W. Zone, not to mention Quambatook!

3TL has had an operation followed by a couple of weeks in hospital, but is now home and was last reported in bed building a v.f.o. 3OA is working DX on c.w. like nobody's business. The rotary works OK. Is busy with a new receiver and intends to rebuild the modulator. 3OE is at Portland with family enjoying a well-earned holiday. 3LC has moved to Quambatook for some months but has not got on the air from the new location so far. 3HR is rebuilding. There was much Ham talk when 3LC, 3BM and 3HR all got together unexpectedly in Quambatook P.O. recently. Clyde Case (2nd op. of 3CH) now has a ticket and his call sign is VK3ACE. Associates, Bud Page and Wal Loveland, are hard at it practicing the code. 3BM (with XYL and three junior ops) is at Edithvale on holidays. Is working on design of triple detection crystal-controlled single-sideband receiver. Attended the State and Maffra Conventions recently.

QUEENSLAND

Nominations of office-bearers for the ensuing twelve months formed the main item of business at the January general meeting of the Queensland Division. The President (4AW) occupied the chair, with Secretary (4RT) and Treasurer (4ES) also on the official dais. Mr. P. Kelly (4KB) who has held the position of Federal Councillor for the past twelve months advised the meeting of the invalidity of the election of the Federal Delegate made at the previous meeting, a mistake due to the fact that no Federal Constitution was at that time in the hands of this Division. Nominations were again called for and F. M. Nolan (4FN) and H. MacGregor (4ZU) were elected. A ballot will be taken to determine who represents this State at Melbourne at Easter.

The President then called for nominations for office bearers and was speedily nominated for the chair once again by 4KB, seconded 4FN. For Vice-Presidents, 4KB was nominated by 4FN and seconded 4HR, 4VJ was nominated by 4KB and seconded 4HR. The retiring Secretary 4RT had the pleasure of seeing 4XG nominated for his position by 4HR, seconded 4KB. For Treasurer, the man nominated was 4SV who like 4XG, is a newcomer to the Council nominated 4KB, seconded 4XG.

It was decided to create another position in the QSL Department, making separate jobs of inward and outward cards. Those nominated were 4EN and 4RC, while for Library Manager 4LT and 4WF were nominated, 4LT later declining because of election for another position—that of Publicity. Country men who look forward to VK4WI broadcasts will be pleased to learn that 4FN was nominated for the job of Station Manager. As before Country Representative will be 4SN, and "A.R." Sub-Editor, 4ZU. Another new face at the Council table will be 4PR, the new traffic man, recently returned from Guam. 4RT moved that a new post be created for an Associates' Member Representative and the following were nominated 4KP, 4TB and Mr. K. Robinson. The attendance at the meeting was quite large, being in the vicinity of forty-five, so the new Council should be truly representative.

Agenda items were called for and 4KB moved that Convention Delegates' expenses should be paid on a per capita basis by all Divisions. To assist the Food for Britain Appeal an inlaid tray, presented by member Mr. F. Barraclough, was raffled and yielded £5/15/- toward the Fund. Thanks, o.m.!

As the business just outlined occupied a considerable amount of time, no lecture was presented, and the meeting closed with the usual rag-chew around the coffee urn.

SOUTH AUSTRALIA

The monthly general meeting was held on Tuesday, 10th February, and a capacity audience was present. The weather was hot and decidedly "sticky," which was an asset in one respect as the few members who stayed away on account of the heat did us a good turn, because I don't think we could have crammed another one into the hall. Mr. Roy Buckerfield (5DA), assisted by Mr. Capel, lectured on "Some Aspects of F.M. as Applied to Amateur Radio." Fortunately for me the lecture consisted of a particularly interesting film on f.m. plus an unusual amount of blackboard explanation and therefore an attempt to rewrite the lecture is almost impossible under those conditions. Suffice to say "Buck" is our star turn with regard to lectures and has never failed to deliver the goods. A vote of thanks was proposed by Warwick Parsons (5PS) which was received with acclamation by all present.

Amongst the visitors were Messrs. Phillis, Lampe, Jackson (V4DJN), Mayman, Powell, Ustrup, Basset, Warren, Wood, King, Rodgers, Peters and Jameson. Visiting Hams included Graham Pitt (5GP), Harold Weber (3PW), Bill Barber (6DX), and last but not least our first YL member, Miss Andrews, whose arrival caused quite a ripple of excitement among the "wolves" present.

The meeting was decidedly enlivened by Ted Cawthron (5JE) who rose during general business and had his customary "winge." Ted does a good job at this and will in time be the cause of several over Hams getting on their feet and having a say. This is a good thing and should be encouraged. Although Ted tackles his "winge" from a humorous angle, don't be deceived, he knows more about radio, Amateur Radio in particular, than a good many, and nobody has done more for the up and coming Ham than he. Ever ready with advice, both theoretical and practical, he is a typical Ham and everyone will readily admit that his "winges"

are more often on the target than off, and his main quality is a capacity for "taking it" as well as "dishing it out."

The communications officer for VK5 respectfully asks that all VK Amateurs endeavour to keep the frequency of 7055 Kc. clear on Mondays and Fridays between 6 45 p.m. and 7 p.m. (Adelaide time) especially the phone stations. When it is realised that this frequency is used as the official communication channel for VK5 at the above times the importance of this request will be understood by all

At the moment of writing the "wireless bird" tells me that the cuckoo is in my nest again, but as the magazine is not out in VK5 as yet, my hands are tied. From observations on 7 Mc. the finger of suspicion points to "Doc" Barbier and my respected Editor. I can't do much about Tom, but "Doc" should be in gaol if you ask me!

The W.I.A. representatives on the VK5 Advisory Council are as follows E. Barbier (5MD), G. Bowen (5AL), R. Gale (5QR), T Laidler (5TL) and E. Cawtaron (5JE). The non-members representative is J Strafford (5JS)

The Technical Committee comprises the following —E McGrath (5MO), F. Wreford (5DW), Roy Buckerfield (5DA), R. Smythe (5MF) and Pete Bowman (5FM). This represents probably the pick of the brains in Amateur Radio in VK5 and nobody should hesitate to seek their advice. They are all good fellows and easy to approach, but they are not physic and therefore don't know who wants advice and who does not. If you feel nervous about them, come and see me and I will be only too pleased to give you an introduction.

VK5 Hams were tickled pink to know that Charlie Chee. (5CR) was the "Wyatt Earp's" first contact Whilst realising that this is probably no more than working a VK3, it's nice to steal a little "thunder" from the "wise men of the east."

To clear up any misunderstanding regarding Ross Kelly (5LW) operating portable at Cape Jaffa, South East, S.A., it was the antenna that was 132 feet long, and not the shark he caught, that was only 8 feet. After all who ever heard of a shark being over 100 feet. Strange places Ross gets to with that Type 3 Mark II. If your receiver suddenly gets blocked with chunks of r.f. don't pull it to bits without first checking outside, Ross may be working portable in your chicken house

A. Smyth gave up work to "carry bricks" recently. He spent his well-earned holidays putting up a new 28 and 14 Mc. super light aluminium tube signal squirter. The 28 Mc. beam is in the sky and the front to back ratio for reception is second to none in the State. The power leaks in his vicinity (almost inaudible on a single wire antenna) are now S9 plus plus!

The power leaks at Max Farmer's (5GF) QTH have been fighting with him for so long that Max has adopted the slogan "if you can't beat the racket then get into it." Therefore over the Xmas period the noise level in the shack rose almost to bursting point with electric drills, spot welders, hammers and many unprintable words. When the smoke and din cleared away, lo and behold, into being did come (chrome plated and all) a swanky 50 Mc. transmitter (1625 in the final) complete with built in modulator and all mod. cons. It is not certain yet whether Max is going all commercial or trying to pinch 5PS's handle of "Pansy."

There is in VK5 a Ham who has a call sign, paid his licence fee, is financial on the W.I.A. books, has more gear than the Eskimos own ice, and a [illegible] and is as good a bloke as one would wish to meet. The name! certainly Dick Scott (5RU). The catch is that not a drop of r.f. has as yet crawled up the "sky wire." Let's hear from you Dick, or should I say "Open the r.f. Richard."

Having been blamed for most things, I am getting in early by telling Jim Sullivan (5JK) that I had nothing to do with the new regulations handbook especially the paragraph changed from "plain language" to "plain English." It's a darn shame Jim that from now on no more "Spanish" and just when your star pupil, E. A Charles (5YQ) was coming on so well too. Never mind Jim there are always those inexhaustible subjects of sky wires and qualities of microphones that can be discussed at great length on 14 Mc. when the DX is not on.

The Burnside boys are frantically erecting 60 feet galvanised iron shields around their shacks since the word has been passed around that Gordon Bowen (5XU) has placed the last dry joint on his high power rectifier unit which will feed the "soup" to the 803 final. If Gordon experiences as much trouble in getting r.f. feedback out of his new rig as he did with the baby outfit the boys will have no trouble in procuring the galvanised iron as it will be off the restricted list by that time

VK5 has had a military signals' display this month and part of this display consisted of a couple of teleprinters mounted up in a departmental store, connected to the Military Parade ground. Messages were swopped between these two stations and the public is supposed to be suitably impressed. "Wick" Bayly (5WM, "Bendix" to you) noticing that the operators were using what appeared to be Amateur abbreviations said to one of them, "Ever work any DX on these gadgets?" The operator looked at him and not wishing to appear ignorant said "No not here, but we have one or two of them down at the parade ground." They tell me that the shop-walker had to throw two buckets of water on "Wick" to revive him.

Strange are the workings of officialdom, when newspaper space was unlimited the Institute was battling every week to get any publicity in its weekly column in the local daily, now that space is at a premium, no trouble is experienced to get all we want every Thursday's issue. Wouldn't it!

The young associate member who remarked some months ago that he did not think he would bother much about the morse code for the A.O.C.P. as it would be cut out of the examination before long certainly has revised his opinion regarding the code after seeing his marks in the recent examination for receiving. Yes YOU'RE RIGHT, a lovely big 0

Members learnt with deep regret the news that Lance Coombe's mother had passed away, and all extend their sincerest sympathy to Lance and his father Vic (ex-5WS) in their sad loss. Mrs. Coombe's sacrifices over the years is well-known to all Amateurs, her life of service was outstanding, and she will long be rememberd by all for it.

Another sports day has come and gone and full credit must go to Joe McAllister and his XYL for such a splendid day's outing. The attendance was rather disappointing, but the infantile paralysis scare was naturally to blame for this. The weather was also very hot, so all in all the day was a huge success. The cost of the day was £7, although £15 was voted for expenses, so that all must feel very satisfied. George Bruce (5GB) did a good job with his p.a. Max Farmer (5GF) and Ross Kelly (5LW) had a splendid array of gear on display and all those who assisted to make the day such a success deserve the greatest praise. The highlight of the day was the opening address by the Hon. Secretary Doc. Barbier (5MD) which was picked up on 7 Mc. and relayed through the p.a. It's all a matter of opinion of course but I am not very keen on Doc's voice, I would rather get a letter from him any day. I have been battling to get one from him for years, but so far no good.

This is a story of a young associate member who upon hearing that there was a possibility of some disposals gear being available thought a personal call at the Hon. Secretary's (5MD) QTH would achieve better results. Arriving at the said QTH and being uncertain as to which door was Doc's, he knocked on the biggest one he could find. A gentleman in a nice new uniform answered the door (the butler presumably) and the associate member said "good day, is this the place where one gets cheap radio parts?" "No," said the butler, "this is where you come to if you are silly enough to buy cheap radio parts!!!" You don't believe it, well please yourself.

Being a c.w. and phone man myself, nobody can accuse me of being one eyed, but the over indulgence in words of some of the phone men on 14 Mc. is getting over the fence. Taking fifty words to explain a point when three would be as good is becoming the accepted thing. Perhaps it is a good thing that there were no phone Hams on Nelson's Victory as his now famous message "England expects that every man will do his duty" would have been sent as "England anticipates that with regard to the current emergency, personnel will duly implement their obligations in accordance with the functions allocated to their respective age groups."

The VK5 delegate to the Easter Conference will again be "Doc" Barbier (5MD) and Frank Wreford (5DW) will accompany him as an observer.

Dr. Ross Adey (5AJ) has been appointed to the VK5 Council together with Jim Paris who will be the associate member's representative.

WESTERN AUSTRALIA

Owing to the Annual Meeting being held on the third Monday in February, notes from this meeting were not available. By the time these appear, the new 1948 Council will have been elected. Great interest has been shown this year by the members in choosing their new Council. More nominations than usual were obtained and a ballot was necessary. We feel sure that this fares well for Amateur Radio in VK6, assuring us of a very healthy future.

PERSONALITIES

VK6QF: congratulations o.m. on being the first VK to work Heard Island. We guess this makes a new country for you. A f.b. effort. 6MB. QRM by a canary is Bill's background these days. "Mike Bakers" Canary is the watchword. 6HT: Harry has quite a fine set up down in Albany. A nice rotary beam finishes the job and good DX results. 6LW: Getting f.b. results down on 50 Mc. and we guess Wally will be one of the first VK6s to work interstate. 6HW: One of the State's well-known Hams, and despite a noisy QTH still gets on the air

VK6MO A very nice contact for the 7 Mc. lads; Alan, the operator, does a f.b. job, and we believe has now turned 6MO v.f.o. 6DX: Bill has been away visiting VK2 and VK3, and we guess absorbing the speech of these wise men. This station has been heard on 14 Mc. Short skip in Perth lately 6FD Likewise heard in Perth working on 14 Mc. Boulder seems to be keeping on the map these days 6RT Len made a visit to Perth recently and acquired some new gear to help the signals from Dangin. 6CN [illegible] out a f.b. signal with [illegible] watts from Geraldton Keep up the good work Cyril 6WH Heard calling Heard Island recently on 7 Mc. Keep it up Ted, and keep Claremont going on 7 Mc.

VK6LM Has been giving the air at Merredin a rest again. Holidaying at Rottnest Island, has been f.b. according to Mal. 6AH: Our VK6 of Wiluna fame has been busy lately and has not been on the air so much. Stan has usually a f.b. 7

Mc. signal. 6WU: Been holidaying in Perth and Albany From Wubin, Ray puts out a good signal on 7 Mc. 6ND: A new VK6 with a fine c.w. signal on 14 Mc. A new antenna is being built and Neville should be working some real DX. 6SN Has been heard quite frequently lately on 14 and 7 Mc. QTH troubles limit the antenna and Alf is not able to erect the best.

DX OF THE MONTH

During this last month, conditions on 28 and 14 Mc. have been worse than this time last year. From about the 4th to the 18th the phone sections of these bands produced just about nil, but outside these dates, conditions were quite good

28 Mc. Phone; Europe.—Has provided most of the contacts when the band has been open. Gs were quite prevalent and quite a few new contacts have been made in addition to the old ones. GW3UO and 4CC in Wales, GM3XB and 4II Scotland. D4AUW and 4AAC Germany OZ7PH Denmark, PA0MJH Holland F8TY France I1CE and 1MX Italy, OK2IK Czechoslovakia, SM5OH Sweden, and OX3NB Greenland were all good contacts during late afternoons or early evenings.

Asia.—VU, VS, J, etc., all still plentiful, but two contacts worthy of note were HZ1AB Saudi Arabia and AR8AB Lebanon—the latter being a long sought-after contact

North America.—Ws have at last put in an appearance in the early mornings from 0700 onwards, the stronger signals coming from W6 and W0, although all districts have been represented Conditions to this continent have been only spasmodic, but when the band has been open some of the signals have been well over S9 The only Canadians worked were VE7EL, 7ER 7AFD—from British Columbia.

Africa The only two South Africans to be heard were ZS6JB and 6KS during one Sunday afternoon, and this continent has been very conspicuous by its absence.

Oceana.—Activity from the Pacific has been very limited and apart from a few ZLs, KH6GT Hawaii was the only one worked

14 Mc. Phone Europe.—Quite a good variety of DX has shown up from this continent, particularly in the late evenings. G3ASC, 8QW 3AP 8TH were the best from the Old Country GI3UW Northern Ireland, MB9AU and 9AI Austria were the first from that country to be worked on phone post-war F8MY and 8BS France, SV1RX Greece OZ3J Denmark, and PA0NG Holland were all good QSOs

Asia.—The VU's from India practically fill the high end of 14 Mc. these early evenings and are easier to work than VKs. In between these S9 plus signals, if one is lucky, a few rarer birds may be heard and worked (with the aid of a v.f.o.) and the best of these were ZC6JP, 6JM Palestine AR8AB Lebanon

Central America.—Some of these more elusive chaps have put in an appearance again—the four worked were TI2OA Costa Rica CO7VP Cuba, XE1AC Mexico, NY4ZQ Guantamano Bay and they provided nice contacts. VK6AP was heard working YS1AC San Salvador one evening

South America.—HK1FO is still heard almost nightly and the QSOs with Victor are steadily growing in number as the v.f.o. beats the QRM (sometimes)

Africa.—Has been a most consistent continent this last month the ZSs being in the majority Amongst the Union boys worked were ZS5M, 4T, 2CL 5O 3AA 6CY 6GI and 1R. From further north VQ4AWH Kenya, VQ3HJP Tanganyika ET3AF Ethiopia ZE2JO Southern Rhodesia, VQ8AD Mauritius MD5AM Suez Canal Zone were all contacts.

Oceania A few rare boys were heard and worked one of them providing great excitement amongst the VK2 boys namely ZK8AP in Western Samoa one Sunday afternoon. WZFB/VR4 in Guadalcanal Solomon Islands was an interesting QSO particularly his explanation of the unusual type of call sign W9IYO KJ6 in Johnston Island was also a rare one. KB6AC on Canton Island in the Phoenix Group is pretty active on both c.w. and phone these days, and he also took up a very pleasureable half hour of my time

14 Mc. C.W.—The old adage "a change is as good as a holiday" was well adhered to this last month when the low end of 14 Mc. was graced constantly with a few more VK8s than usual This fortnight's bashing at CQ provided many new countries never heard before on phone

Europe The Russians are there in droves and providing they are called on their own frequency contacts result in nine out of ten calls. Incidentally all different prefixes of the U.S.S.R. represent a new and different country in the eyes of the DX C.C. Those worked were UA6LD UD6BM UB5KAB, UJ8AF UH8AA UC2CB UL7BS, UB5KAD, UI8AP, UH8KAA, UI8AA UA9KCA, UA6LC UR2KAA UA6LK UA0KFA UD6AG UG6WD YR5J Roumania MD7DA Cyprus, SM7MS and 8NU Sweden, YU7XX Yugo Slavia (a welcome rare bird), MB9AS

Austria, OX3SF and 3BG Greenland, LA5OA and 1WA Norway, OH6NN Finland, OK2DD and 3AL Czechoslovakia, DTJP Germany were all added additions in the hope for QSLs.

Asia.—The rarest ones were EP1AL Iran, VS9AN Aden, GR9AN Macao, ZC6WL and 6JP Palestine.

Central America.—TI2EXO Cost Rica, CM2AZ and 2WD Cuba were the only QSOs.

South America.—LU7OD Argentine was worked one evening about 1730, although PY1AJ and 1HX in Brazil were chased for a few nights without success.

Africa.—A few interesting chaps were met in VQ4RAW Kenya, MD1I Tobruk Libya, CN8MI Casablanca, French Morocco, VQ8AD and 8AF Mauritius, MD2C Tripoli were the best.

TASMANIA

Holidays again took their toll of attendance at the February meeting, with a total of twenty-four, but there should be a decided rise at the end of the month. The annual dinner is once more upon us and the festivities are to be continued next day in the form of yet another D/F field day.

3CB visited us on this occasion and was able to resume VK7 rag-chews which began in the days when most of us were banging the old man's pet crystal detector on the side of our cot. Or so it seemed.

The intended lecturer could not get along at the last minute, and his place was ably filled by Mr. Alan Morrisby, who took us on an intricate blackboard tour around a 3-channel carrier system.

These D/F field days come thick and fast in Tasmania. They are certainly a good way of having a picnic, but the boys are getting on to the transmitter so smartly these days that we may soon just as well have the picnic and leave the transmitter at home. The most recent one was held on Sunday, 25th January, when 7OW took the rig to Pipeclay Lagoon, about twenty miles away by road on the east side of the river. Well-known cars have been a give-away on previous occasions, so Crosby borrowed an A Model Ford and used a well-nigh invisible aerial just to make things a bit hard.

Anyway, 7LJ and Barney Watson got home within a few minutes of each other, the latter winning on points through having done a few miles less than 7LJ, and the place soon became well populated with questing loops. Prominent among these was 7BJ, who was seen to spend some time investigating a nice healthy looking aerial, at the bottom of which was a box, a dud bottle and the legend: "This is NOT it."

7LL took 7YY's receiver for a lengthy trip around Lewisham and other large tracts of country, but charitably blames himself. Bad luck dogged the chap who broke an axle—oh, it's red-blooded game, this—but he had a spare on aboard and wisely contrived to be overtaken by 7AF who, being a motor mechanic, was certainly the right man at the right moment. We are pleased to record that 7CW's stratagem of using an old car was rewarded by a puncture on the way home.

Terry ("Sinbad") Connor is back with us, filled with strange oaths and a smell of tar after his trip to ZL and back to Sydney on "Kurrewa III." 7CT mobile did not operate for lack of an 3.5 Mc. crystal, but in spite of salt water and battery troubles, the commercial skeds were kept every night, going and coming.

NORTHERN ZONE

This month I have little to report having been over in VK8 portion of the period and consequently having less time to go snooping around our members. Incidently if our numbers continue to grow at the present rate, I will have to advertise for an assistant so as to be able to cover the rounds in the allotted time.

This month we welcome to our ranks still another member, Mr. Rex McLean, of commercial station 7LA. Having successfully passed his code and regulations he expects to be on the air immediately he gets the OK from the P.M.G's. Department. The only visitor to the Zone last month was Mr. Bill Sievers (VK3CB) who is at present holidaying in Tasmania.

The W.I.A. monthly circulars published in Hobart are well received in this Zone and are a big help in keeping our members informed of the various activities of the Institute at State headquarters. A recent circular asking for suggestions in regards to the forthcoming conference caused much discussion amongst Zone members and some suggestions were forwarded to Hobart for discussion.

The activities of our various members have not deviated much from those recorded in previous months excepting that 7RK now goes after the early morning DX on 14 Mc. 7BQ, 7GD, 7LZ and 7DS are all following along their beaten tracks. DX this month has been rather poor. A few of the best stations heard on 14 Mc. being J8AAU, KG6AW/VK9, W2WMV/C9, KH6LX/J9, MD1D, XZ2KN, CE5AW, W0CTV/VR1, VS4VR, VS4WL, UI8AE, VP9D, HS1LA, OX3MG in Kangerdlugssuak Greenland and a few UA0s.

FIFTY AND UP

(Continued from page 20

absence of 4AB. 4CU and 4KK have signified their desire to try and establish 50 Mc. links with Brisbane. Glad to hear it o.m. 4RY is rebuilding with new 522 type receiver, 14 and 28 Mc. exciter, etc. 4ZU and 4HB are busy digging bugs out of e.r.o's. 4BT, 4HB and 4JP are active on the band. 4FN is getting much better quality out of the 50 Mc. transmitter.

From our good friend 5JD:—5NG's forty watts certainly goes places! A v.h.f. listener recently reported excellent reception from the verandah of the "Old Spot." The listener's rig consisted of a single stage superregen. with the antenna mounted on the carrier of a motorcycle. Incidentally, the "Old Spot" is located about 15 miles from Adelaide and is well down in a gully. 5KZ is heard now and then. Not up to his old standard. 5GB has a few QSOs now and then also. 5GA an ardent listener. Receives 'em with co-axial antenna about 6 ft. from the turf. As soon as Doc produces the co-ax cable there will be another transmitter on the band. 5BF removed the 166 Mc. antenna from atop the tower for a working bee. The bees buzzed off without replacing the antenna. 5JD sigs as usual. Is awaiting the pleasure of the local timber merchant —wants to get on the beam.

Since our last notes, several new stations have made their appearance on 50 Mc. in VK6. 6FW is putting out a very f.b. signal from his new QTH. 6MG of Manjimup has receiver and transmitter on the band and has been testing with Perth and Albany but no success so far. 6WH has now a receiver on 50 Mc. and can be worked cross-band on 7 Mc. 6EC, of Minding, broke through to Perth (118 miles) on 31st January at 1945 W.A.S.T. and was worked cross-band by 6LW on 7 Mc. from 2040-2255, Eric's c.w. signals running S4/5. These signals were also heard by 6HM who was not able to QSO as Charlie had no 7 Mc. transmitter. Unfortunately 6EC has not yet finished his 50 Mc. receiver.

A further cross-band QSO took place on Sunday, 8th February, from 2155-2305; Eric's signals this time being S6/7. 6GB reports having heard 6EC at 1955-1958 and again at 2015 at S5. Incidentally 6EC uses 30 watts to 807 into a dipole—wait till you put up a beam Eric! Still no trace of eastern states' signals in VK6 despite constant nightly watching of the band by several VK6s.

For the benefit of all chasing W.A.S. on 50 Mc., the VK6s are usually on nightly between 2100 and 2350 hours E.S.T.

166 Mc. JOTTINGS

Things seem to be quiet in all states due to DX on 50 Mc. On 18/1/48 the Kingsford Club in VK2 held a 166 Mc. field day, quite a number of the boys taking part and some very useful information being obtained. More tests were made with horizontal polarisation, which would appear to bear out previous observations. One new station is known to be operating in VK2 on 166 Mc. in the person of Fred Carruthers (2PF) who is back again after a long silence. Latest news to hand it that 2ADX of West Maitland, and 2BZ, of Tighe's Hill, are now on 166 Mc. which should mean much turning of beams to the northward in the hope of getting through to Newcastle and the Coalfields.

3ACM lost his 815 due to broken seal. 3JK and 3YK in Wangaratta, and 3WC in Horsham, expect to be on soon. 3ABA is also on with a consistent signal. 3MB and 3TZ still run their "private phone." 3LH uses a 10 ft. aerial with good results. 3EM gets out from two half waves in phase 3 ft. high. 3YJ, 3CO and 3NB are also on the job.

In VK5 5NG was heard calling but he needs a new receiver to match his new transmitter. 5JD returned from holidays in Darwin where he got a few bits, etc. to improve his rig.

The VK3 v.h.f. group, at their last meeting were able to meet in person two notable v.h.f. workers from VK2 in the persons of 2KI and the N.S.W. v.h.f. officer, 2NP. The latter provided a good insight as to the 166 Mc. doings in the Harbour City plus a valuable insight as to the temperature inversion effect on the 50 Mc. break throughs over ZL and VK.

USES A BOOT POLISH TIN!!

1400 Mc.—2DB had some 1400 Mc. gear in operation at a recent v.h.f. meeting in VK2. His field strength meter resonant cavity being made from a boot polish tin! He uses a 446 lighthouse tube and there seemed to be quite a bit of r.f. there. 2NQ and 2FK also have gear but no contacts have been made. 3VM is still trying to get on 10,000 Mc. but no reports so far as to success.

CONDITIONS IN ENGLAND

News from ex-VK3NW, Ken McTaggert, now G3CUA (temporarily) is to hand. Quoting from his letter:—"Five metres in 'G land' is good but methods are rather different from VK. Most of the contacts are straight c.w. No m.c.w. heard so far. We get good contacts up to and over 200 miles, e.g. G2XC, Portsmouth, 125 miles, is very good here at S6 though there are hills between. Almost continuous conditions of temperature inversion over this little island cause this DX. Nearly all sigs fade, even those from London, 50 miles, so obviously they are being bent. We hear Fs, etc., occasionally, though I have not worked out of G. Have not struck any Spor. E but expect to in the summer. There is a good scattering of stations all over England so that you get good variation of contacts.

"The idea here is to work as many countries as possible. The keen blokes have 35 countries, but I have only 8 so far. The rigs here are much the same as at home; c.c. with a variety of p.a's. 832s are fairly plentiful and cheap, so is v.h.f. gear which goes for a mere song. Our band is 58.5-60 Mc. though some have permits to work on 50-54 Mc. I am also on 14030 and 14348 Mc. phone and would like contacts with VK."

CORRESPONDENCE

THANKS

Foreign Office,
Downing St., London,
Hague Bag.

Editor "A.R.,"

May I thank you most sincerely for your continued kindness in sending me your monthly journal every month since I left your old "Aussie" almost two years ago. The journal is something that I have always looked forward to receiving and it has helped me to keep contact with the boys of VK3, many of whom I got to know so well whilst I was "down under" amongst you all.

May I take this opportunity of wishing VK Hams, VK3s in particular, all the very best of good luck for 1948. May the "Amateur Radio" journal be the brilliant success in the future, that it has undoubtedly been in the past.

Yours sincerely,
TOM G. CADELL,
PA0TOM, ex-VK3EE

SUGGESTIONS

26 Frederick Street,
Horsham, Vic.

Editor "A.R.,"

May I be permitted to express a couple of ideas for our journal. Firstly, I would like to support W. Burford's suggestion that a "Hints and Kinks" Section would be a good thing and very popular with everyone.

Secondly, I feel that the "country cranks" are at a disadvantage in this respect—they cannot attend meetings and lectures in the city. What about letting us have the lectures, etc., in print? I am sure this would find favor amongst us chaps.

"Gremlin" is a fine fellow and is doing a fine job, good luck to him.

Many thanks for your interesting journal articles.

Yours sincerely,
H. R. FITZSIMMONS, VK3FI.

["Hints and Kinks" will be commenced as soon as we have sufficient material. Contributions are welcomed. Some lectures have been printed in the past, and will be in the future, when manuscripts are submitted.—Editor.]

Mort Street,
Katoomba, N.S.W.

Editor "A.R.,"

For some time I have considered a few ideas which may be of use to you as Editor of "Amateur Radio." You may or may not like the ideas, anyhow no harm done so here goes. I would like to suggest a question column for technical questions. The questions to be asked and answered by the readers themselves. The Technical Editor would most likely be the best person to edit the column, limiting the questions and answers actually printed to subjects of general interest considered instructive to the average reader.

I would suggest that a few rules be made concerning writing into the column. (1) The subjects must be of general interest to the average reader. (2) The question to be not more than fifty words and answers as short as possible. (3) The Editor does not have to publish every question or answer or answer all correspondence. (4) Those whose questions have been printed may obtain all answers to same by sending a stamped and addressed envelope.

Such a column would probably make interesting and educational reading; provide a useful service to those wanting information and bring out of their shells a number of writers of technical articles. One trouble would be that questions would be printed one month and the answers the month following, making it necessary to either reprint the question or say number the questions. I would suggest the questions be numbered throughout the year and answers to always bear the number of the question.

I hope this suggestion may be of some use and wish you 73 for the present.

Yours sincerely,
B. HANNAFORD, VK2ALR.

[The idea is a good one OM and consideration is being given to it.—Editor.]

17 Berwick Street,
Coogee, N.S.W.

Editor "A.R.,"

I read with interest VK3GE's letter in December, 1947, issue and think it was one of the best and to the point that I have read in "A.R." Like 5PB I intended to make a contribution but did not get around to it, but after reading the letters from 3EL and 5PB I thought the time had arrived to pick up the pen.

The articles I like to see are those describing a piece of gear or an antenna, what the writer has found out, what worked and what did not and why. I agree in parts with 3EL that we should improve our knowledge of the art and should have improved on the fundamentals needed for the ticket and most of us can make a substitution and know what goes on in a piece of gear at a certain frequency, but if we don't know what we are doing in involved mathematics the slightest mistake will give an answer which has no relation to the problem on hand.

3EL says there are plenty of publications for the layman and 5PB states there is an excellent range for the technically minded, but I think quite a few of us are in between. Suggestions? Give us the dimensions of an antenna, the basis of a v.f.o. or the dimensions of a wave guide and I think most Hams will be interested, but mathematical approach to these things will be passed over. I like to turn to Ham Radio as a relaxation and had often thought I had neglected things a bit when reading these complicated articles, but was interested to find there are at least two Hams like myself, maybe there are more.

In conclusion I would like to say that the articles on safety are timely considering the frightful haywire we have at times and that the articles by "Gremlin" are always read with interest, possibly I have not been active enough to receive mention or by some extraordinary stroke of luck my sigs have been good.

Yours sincerely,
W. P. NELSON, VK2KH.

43 Yanko Avenue,
Waverley, N.S.W.

Editor "A.R.,"

Apparently Lt.-Col. George Every (VK3GE) started something when he entered that plea for simplicity in articles in a purely "Ham" magazine. George SHOULD know the thought trend of the average amateur, also his likes and dislikes; for many years he has schooled army personnel in Signals theory and practice. Service students making up a class invariably included a sprinkling of would-be "Hams"—during the war such classes included many members of the fraternity. Nevertheless, out of a class of 36 students, the top rankers in E and M and radio theory—relatively simple at that—comprised no more than about 3 per cent. Theory exam failures could be placed around 40 per cent., again, despite the elementary nature. In practical work however, failures in exam would be, conversely, about 4 per cent.

The Army's needs at that time were for men with plenty of practical ability, plus a small amount of theory, and under that form of training, there emerged men of considerable Service value. So it is with the average Ham; he acquires enough "know-how" to qualify for the A.O.C.P., and if he is no shining light, he is probably the first to admit the failing, if such it be. No doubt as VK3EL says in "A.R." for February, 1948, "the chap with little or no knowledge of the theory behind the job he is on generally makes a hash of it," but we should not lose sight of the primary consideration that Amateur Radio is a HOBBY. For those with a professional background in technical radio, an ample quota of technical-scientific knowledge is of paramount importance, and if the professional man is attracted to Amateur Radio, then the hobby will benefit, IF he goes out of his way to help less learned colleagues over hurdles with proferred advice. But, if he descends rarely to the technical status of the many modestly-inclined Hams not gifted with mathematical brilliance, and if he writes articles for magazines only in expression fitted to I.R.E. papers, he definitely sounds a wrong note in Amateur Radio.

Practice and the mathematical reasons for it are inseparable, but there is an appropriate method of dealing with the theory, and that is, in as simple a form as possible where Radio Amateurs are concerned.

That outstanding publication "QST," aptly dubbed the "Amateur's Bible," is always to the forefront with practical development; in many instances through the years it has been ahead of professionalism. It amply supports any practical story with the why and wherefore, but always in the language of the man in the street. The humble not-so-clever amateur can follow it all with average reasoning.

As one who has contributed "acres" of copy in technical radio journalism for more than 25 years, I suggest that VK3GE is right. Fill the pages of "A.R." with a mass of equations and calculus, and readers interested will be in a small minority. The majority wants to know "how many turns" and "what size former?" etc. It is by catering for this majority that your publication will remain what its title implies.

In conclusion, a word or two about the doughty "Gremlin." Criticisms of his repartee are rife on 7 Mc. R/T. May I suggest that some grizzlers take him too much to heart? A sense of humour IS necessary in this hobby, which after all, is merely that, and Australians are supposedly noted for their ability to "take it." I even heard one individual attribute "Gremlin's" identity to myself, an "accusation" that I must, out of fairness to "Gremlin," whoever he may be, deny forthwith. May he continue with wasp-like persistence to sting wrong-doers in tender places.

Yours sincerely,
D. B. KNOCK, VK2NO.

"GREMLIN'S" ARTICLE

673 Forrest Hill Ave.,
Albury, N.S.W.

Editor "A.R.,"

I am amazed to read in February "A.R." references to 2OJ by "Gremlin" under the heading "Such Nice People." 2OJ is accused firstly of being a v.f.o. user, running a carrier around the band, and signing once. Will "Gremlin" please tell me when the alleged offence took place, on which band, and with what station was 2OJ QSO?

The answer will be very interesting, because, believe me, I have never used a v.f.o. Way back around 1928 I scrappd a t.p.t.g. oscillator for crystal and have been c.c. ever since. How could I possibly run a carrier around the band? As for signing once, I wish it to be known that this accusation is definitely against my idea of operating, apart from regulations in force. "Gremlin's" wording of "If its a New Year resolution you want, try skipping Hi on phone—if you can't laugh, it's not funny I guess." I agree, there is nothing like a hearty laugh at something funny—it does one good. Hi is for use in c.w., not phone. I know that, and there is no need for "Gremlin" to try to tell me something which I already know. To sum up, 2OJ is not guilty of "Gremlin's" accusations, and a published apology is requested.

What is wrong with a v.f.o. anyway? I think it an asset to any station, but of course must be used and not ABUSED. You must agree. I intend to install one as soon as possible and be proud of it, but it will be used as one should be. I think the other comments have been explained.

I think it high time this sort of thing is brought to a close. Why not a bit more helpful co-operation? There is an Advisory Committee, which I am sure would tackle any "Breaches" in a more business-like manner, and be certain before making an accusation. "Gremlin" is not getting us anywhere. As Hams we should be pals and help each other—that's in the game. Satirical and erroneous remarks are not helping any. Think it over. Come out in the open "Gremlin," and let us look you over. Whether you've been a Ham for 20 or 2 years, what does it matter. Non-de-plume is not for me.

Yours faithfully,
NOEL ARNOLD, VK2OJ

["Gremlin's" closing paragraph was a general observation on the use of c.w. abbreviations when using telephony, and did not refer to VK2OJ. Has the possibility of a pirate using the call VK2OJ occurred to the writer?—Editor.]